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ABSTRACT

This early look at the E-Rate is part of a new initiative, funded by the Department of Education, and is based on an analysis of E-Rate administrative records covering the first two years of program operation, that were linked to detailed national data on all public and private schools and libraries in the U.S. Key findings indicate that public schools have taken the most advantage of the E-Rate program. In the first two years, the E-Rate has distributed nearly $4 billion, with 84% going to the nation's public schools. In part, this is due to differences in the program's penetration--more than three-fourths of all public districts and schools applied for E-Rate funds, compared to about half of public libraries and 15% of private schools. Thus, there were about 13,000 public school districts, 70,000 public schools, 5,000 private schools, and 4,500 library systems participating in the second year of the E-Rate program. The E-Rate has targeted poor communities, encouraging higher rates of application and getting funds to the places with the greatest need. Application rates of the most impoverished public school districts were lower than those of most other school districts in the first year of the program, which may be a consequence of lower capacity in these communities. However, application rates rose for all types of entities in the second year of the program, and by even more for high-poverty districts than for other types of districts. Larger districts, schools, and libraries are more likely to apply for E-Rate discounts, and when approved receive the largest total amount of E-Rate funds and higher average funding per student (or person). This pattern also holds for application rates even after controlling for poverty or urban location, suggesting that larger organizations may have more of the human, technical, and fiscal capacity needed to apply for, and make effective use of, the E-Rate program. Detailed tables are appended. (AEF)

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E-Rate and the Digital Divide: A Preliminary Analysis From the Integrated Studies of Educational Technology

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All errors, however, are the responsibility of the authors.

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ERIC_NO: ED421968
TITLE: Falling through the Net II: New Data on the ***Digital Divide***.
PUBLICATION_DATE: 1998
ABSTRACT: Findings of this report indicate that, since an earlier 1994 study, the number of Americans that own computers has increased by over 50% and the number of households using e-mail has quadrupled. Nevertheless, access to the Information Superhighway is still beyond the grasp of many Americans. While the nation-wide telephone penetration rate remains at a relatively high level of 93.8%, some pockets of Americans still have no telephone service. Whites still have a far higher telephone penetration rate (95.9%) than Blacks (86.0%) and Hispanics (86.5%). There are even more disparities in computer ownership and access to online services. Although more Americans now own computers than before, households earning more than $75,000 are approximately seven times as likely to own a computer as those earning between $5,000 and $10,000. White households are still more than twice as likely (40.8%) to own a computer than Black households (19.3%) or Hispanic households (19.4%). These gaps in ownership levels are greater than they were three years ago. Findings underscore the importance of such programs as NTIA's Telecommunications and Information Infrastructure Assistance Program and the ***E-Rate*** (a program that will allow schools and libraries to establish Internet connections at discounted rates). Twenty-four charts illustrate statistics. (AEF)
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Executive Summary

The E-Rate Program

The Universal Service Fund for Schools and Libraries—commonly known as the "E-Rate"—was created in 1996 as part of Public Law 104-104, the Telecommunications Act of 1996, to provide discounts on the cost of telecommunications services and equipment to all public and private schools and libraries. Eligible services range from basic local and long-distance phone services and Internet access services, to the acquisition and installation of equipment to provide network wiring within school and library buildings. Computer hardware and software, staff training, and electrical upgrades are not covered, however. Discounts range from 20 percent to 90 percent, depending on economic need and rural location.

While the U.S. is in the forefront of the technological revolution, there are segments of our society—particularly the poor and minorities—for whom access to computers and the Internet is significantly lower. For many of those separated by this "digital divide," the targeting of schools and libraries by the E-Rate program is important because these institutions are their primary means of gaining access to what the new technology has to offer, and in particular, to the dramatic changes in the education of the nation's children being foreseen by many of the proponents of educational technology. In particular, there are some early indications that when used correctly, by trained and well-supported teachers, the new technology can improve learning, especially for the most disadvantaged children. But, this new technology is expensive and can force school officials to make difficult choices between investing in technology and investing in other things that will improve learning, such as professional staff development, smaller classes, and better curriculum. This is where E-Rate has its greatest potential effect on education—by helping to build the necessary infrastructure it can ensure that all communities have access to the latest technology, while allowing them to use their scarce resources to support other critical aspects of modern schools.

The Formative Evaluation of the E-Rate

This early look at the E-Rate is part of a new initiative, funded by the Department of Education, intended to expand our knowledge of how technology is changing American education.[1] The report is based on an analysis of E-Rate administrative records covering the first two years of program operation, that were linked to detailed national data on all public and private schools and libraries in the U.S. (a combined total of nearly one million records).[2] More in-depth reports will be released late in 2001 after the completion of large national surveys of states, districts, schools, and teachers.

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[1] The multi-year ***Integrated Studies of Educational Technology (ISET)*** is being funded by the U.S. Department of Education's Planning and Evaluation Service (PES) and Office of Elementary and Secondary Education (OESE) as part of the continuing evaluation of Technology Literacy Challenge Fund (TLCF). ISET is being conducted in collaboration with the Department's Office of Educational Technology (OET) and the Schools and Libraries Division (SLD) of the Universal Service Administrative Corporation, which, under the direction of the Federal Communications Commission, administers the E-Rate program.

Findings

The key findings from this initial study are as follows:

- **Public Schools Have Taken The Most Advantage Of The E-Rate Program**. In the first two years, the E-Rate has distributed nearly $4 billion (and 3rd year requests alone have exceeded this total), with 84 percent going to the nation's public schools (see Exhibit 1). In part, this is due to differences in the program's penetration—more than three-fourths of all public districts and schools applied for E-Rate funds, compared to about half of public libraries and 15 percent of private schools. Thus, there were about 13,000 public school districts, 70,000 public schools, 5,000 private schools, and 4,500 library systems participating in the 2nd year of the E-Rate program.

- **The E-Rate Has Targeted Poor Communities.** Given the intent of the E-Rate it is important to see that it has met its goals by encouraging higher rates of application from the poorest communities and getting funds to the places with the greatest need. As shown in Exhibit 2, for example, per student funding to school districts increases dramatically with poverty, and the most disadvantaged districts receive almost ten times as much per student as the least disadvantaged. Similar patterns hold for application rates, total funding, and other types of entities (schools and libraries).

- **Digital Divide.** Application rates of the most impoverished public school districts were lower than those of most other school districts in the first year of the program. This may be a consequence of lower capacity in these communities. However, application rates rose for all types of entities in the second year of the program,[3] and by even more for high-poverty districts than for other types of districts.

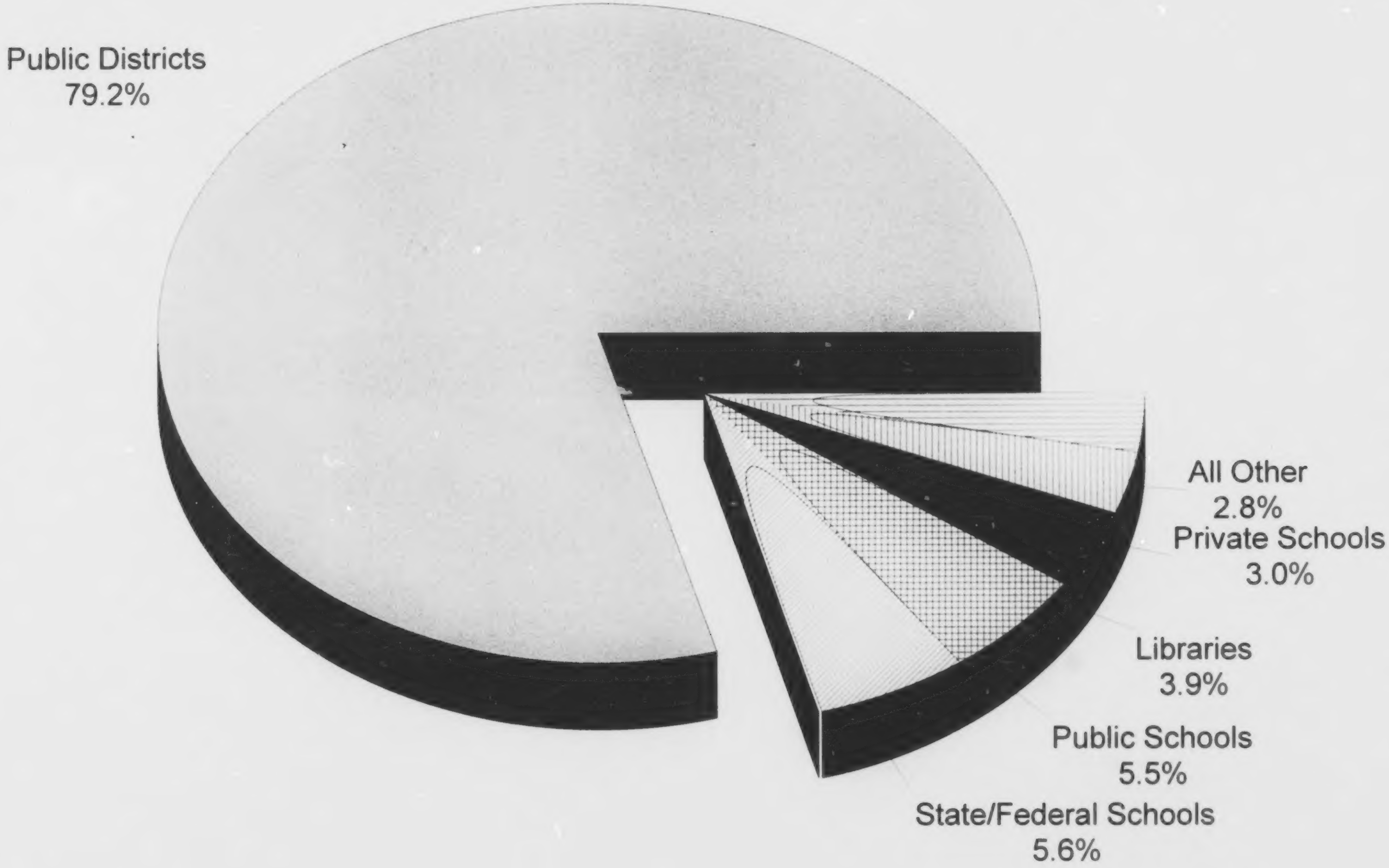
- **Size Matters.** Larger districts, schools, and libraries are more likely to apply for E-Rate discounts, and when approved receive the largest total amount of E-Rate funds and higher average funding per student (or person). This pattern also holds for application rates even after controlling for poverty or urban location, suggesting that larger organizations may have more of the human, technical, and fiscal capacity needed to apply for, and make effective us of, the E-Rate program.

---

[2] Available from the U.S. Department of Education's National Center for Education Statistics.

[3] From 73 to 78 percent for districts, from 74 to 78 percent for public schools, from 15 to 16 percent for private schools, and from 50 to 52 percent for libraries.

Exhibit 1: E-Rate Funding by Type of Entity



Note: Funding Requests made by January 4, 2000. Data Source: The Schools and Libraries Division of the Universal Service Administrative Company.
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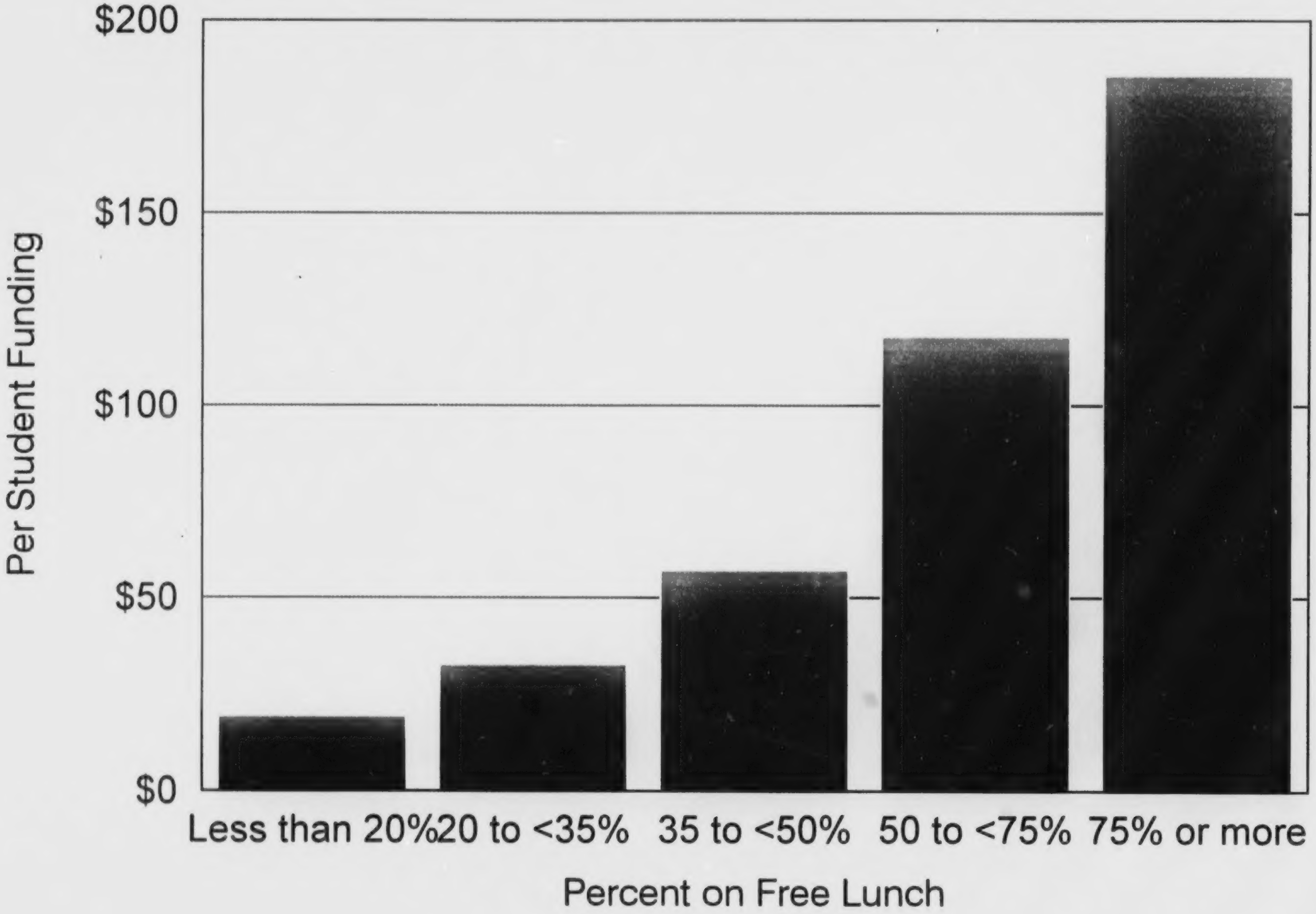
Exhibit 2: E-Rate Commitments per Student in Funded Public School Districts, by Poverty Level, Years 1 & 2



Data source: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.
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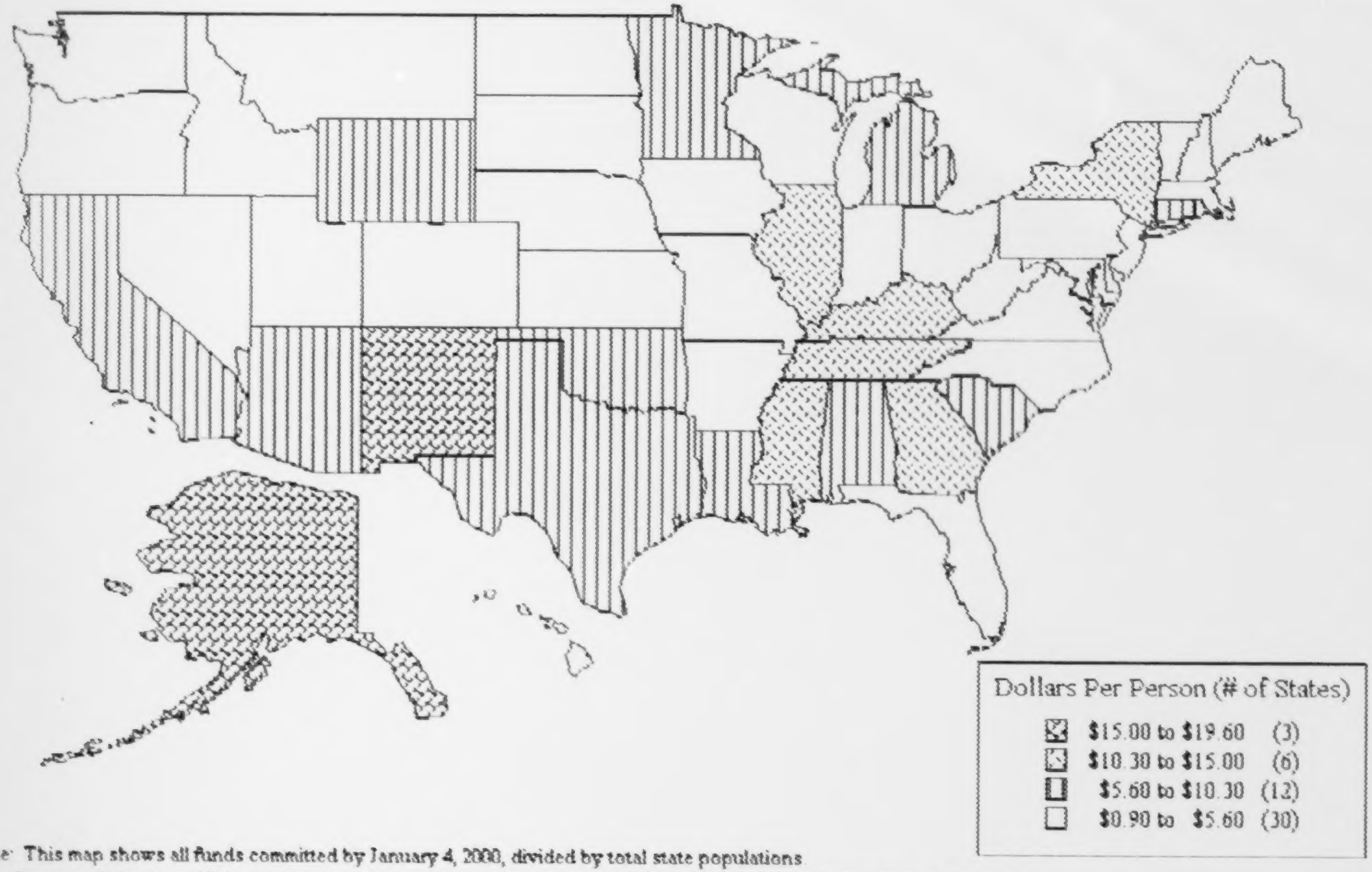
- **Urban Areas Benefit From The E-Rate Program.** Urban schools and libraries, which tend to have greater concentrations of poor children and to be larger in size, receive larger average funding levels and higher funding per student. Similarly, while there are no clear relationships between E-Rate applications and the concentration of minority students, because funding is strongly tied to poverty and minority concentration is highly correlated with poverty, total and average per-student E-Rate funding generally increases with increasing concentrations of minority (nonwhite) students.

- **Rural Areas Also Benefit.** Because the E-Rate funding formula favors rural applicants with up to half of their students receiving subsidized school meals, these rural districts receive higher funding per student than equally poor urban districts. The funding formula does not distinguish between urban and rural communities with greater concentrations of poor children and, as a consequence, no clear rural-urban differences are found in funding per student among higher-poverty districts.

- **Most E-Rate Funds Are Used For Internal Connections.** The largest share of E-Rate funds (58 percent) has supported the acquisition of equipment and services for internal building connections, with 34 percent used for telecommunications services, and eight percent allocated to the cost of Internet access. Funding per student for internal connections was especially high in the higher-poverty districts (and even more pronounced in Year 2). This greater E-Rate spending for internal connections in high-poverty districts may, in part, be due to particularly poor infrastructure needed to support the development and effective use of telecommunications services. Once these poorest communities have made the upgrades, funding requests for internal connections may decrease in future years of the program.

- **States Vary Greatly In Their Use Of E-Rate.** State differences in application rates and funding levels reflect a variety of factors including poverty, rural location, and prior investments in technology infrastructure. School participation rates may also reflect state and local priorities and leadership. The fraction of state schools applying for the second year of the E-Rate program ranged from a low of 41 percent in Montana to highs of 93 percent in Georgia, 95 percent in Rhode Island, 96 percent in Arkansas (and 99 percent in Hawaii's single school district).

Exhibit 3: Per Capita E-Rate Funding to Districts, Schools and Libraries by State in Year 2


Dollars Per Person (# of States)
▩ $15.00 to $19.60 (3)
▨ $10.30 to $15.00 (6)
▥ $5.60 to $10.30 (12)
☐ $0.90 to $5.60 (30)

Note: This map shows all funds committed by January 4, 2000, divided by total state populations.

Data Sources: Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Census Bureau.

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- **State Differences Are Related To Poverty And Rural Location.** On a per capita basis the big "winners" include Alaska, Kentucky, Puerto Rico, Mississippi, New Mexico, and the District of Columbia. These differences are driven by the E-Rate funding formula, which favors poverty and rural location. Indeed, as shown in Exhibit 3, most of the states in the South, where child poverty is often more than 20 percent, have high funding (over $5,600 per 1,000 population), while the reverse is true in the North, where child poverty is much lower. California and New York also have high child poverty rates and high E-Rate spending per person. At the other end of the spectrum Colorado, Indiana, Iowa, Nevada, New Hampshire, North Dakota, Maine, Utah, Vermont, and Wisconsin all have comparatively low E-Rate funding (under $5,600 per 1,000 population) and low child poverty (under 14 percent). Finally, Alaska, which has high spending but low child poverty, is a very rural state with significantly higher market costs for equipment and services.

- **Other Factors Also Play A Role In State Differences.** These variations also reflect differences in the local market cost of E-Rate-eligible equipment and services, and the extent to which institutions in different states need different types of services, especially the high-cost internal connections. That is, states with a well-developed technology infrastructure (e.g., Delaware) may be less able to obtain large amounts of E-Rate funding than those states where schools and libraries are at an earlier stage of technology development. Each state has its own story to tell, and what may be the case for public schools in a particular state may be very different for the state's public libraries or for public schools in another state. To get a better understanding of these state-level differences will require more in-depth study of individual states than is possible with the data used in this report. At best we can point out the patterns and suggest avenues for further research.

Recommendations for Future Analysis

The ability to quickly collect and analyze these data has provided an unparalleled opportunity to evaluate the efficacy of an ongoing and newly developed policy initiative in a very timely fashion. Improved collection of identification information, as part of the E-Rate application, from districts, schools, and libraries could make this process even faster and more cost-effective for ongoing program monitoring.

The data already collected, however, are invaluable. While an extensive analysis of these data has been conducted in a short time period, the data contain a great deal of rich information that has yet to be completely analyzed. For instance, more work should be done to estimate the likely increase in spending on technology caused by the E-Rate program. In addition, these data could be looked at to analyze whether entities that applied for a high level of funding per person for internal connections in one year continued to apply for high levels in subsequent years. (If not, this would suggest that internal connections are generally a one-time expense.) Finally, these data could be used to look at specific types of entities of particular concern to policymakers, such as schools operated by the Bureau of Indian Affairs and schools and libraries located in Empowerment Zones.

While these data are extremely valuable, they also have important limitations, many of which will be addressed by the ISET study described above. By collecting additional data directly from districts and schools, and specifically from E-Rate coordinators, a much more complete picture of the E-Rate program will be available including, how E-Rate funds have enabled schools to leverage other technology resource, and how the funds (and the technology acquired) has changed classroom instruction.

Chapter I: Technology in Education

> *"It cannot be doubted that in the United States the instruction of the people powerfully contributes to the support of the democratic republic; and such it must always be the case…"*[4]

This statement, written 165 years ago by the Frenchman Alexis de Tocqueville, captures the importance of education in today's "information age," and the need for equality of access to information for all Americans regardless of location, socioeconomic status, or race. This report focuses on one federal initiative—the Universal Service Fund for Schools and Libraries, commonly known as the "E-Rate",—that is designed to achieve these goals by helping to ensure that students have access to telecommunications and the Internet both at their school and in their community.

The Growing Importance of Technology

It is difficult to read or view print or broadcast media and not be inundated with stories about the growing importance of technology in today's society. We are in an age where access to information is a key source of power.

Probably the single factor driving the expanding importance of access to information and the use of technology is the Internet. With the advent of the World Wide Web, use of the Internet has grown at a rate unseen for technology—today, it is estimated that more than 100 million users around the world, most of whom never heard of the Internet four years ago, now depend on it for communication, shopping, research, and a host of other purposes. Some have even predicted that there will be a billion users by the end of the next ten years (Margherio, et al., 1998). Radio, by comparison, took 38 years before 50 million people tuned in, television took 13 years to reach the same level, personal computers (PCs) reached this level of use in 16 years, but the Internet did it in just four years (Margherio, et al., 1998). According to a recent National Public Radio (2000) poll, virtually all Americans under the age of 60 (92 percent) have used a computer at some time, and most (67 percent) have also used the Internet.

---

[4] From the English translation, de Tocqueville, A. (1945). ***Democracy in America, Vol. 1***, New York, NY: Alfred Knopf.

As Heterick, Mingle & Twigg (1997) observed, this rapid growth in the use of digital technology points to important trends that are likely to have broad social and economic implications: (1) technology skills will continue to become a necessary part of the education and workforce experience for most students and workers; (2) digital devices will continue to replace older analog technology as sound, video, and data communication merge with the rapid growth in high-bandwidth systems; and (3) individuals will have increasingly direct access to services and information (without the need for intermediate institutions), and the power of technology will increasingly allow products and services to be "packaged" to meet individual needs and preferences.

At the same time, as the U.S. Department of Education's Office of Technology has noted, there is also an increasing need to emphasize the importance of sound "cyber citizenship" so that individuals, especially children and young adults, know what they can and cannot do (e.g., avoiding plagiarism and computer "hacking") when taking advantage of this growing digital world.

The Digital Divide

Despite the rapid penetration of the computer and the Internet into the fabric of American society, there are important differences in the access to, and use of, 21st century technology. According to a recent report by the U.S. Department of Commerce (1999):

- **There Is A "Digital Divide" Between The Wealthy And The Poor.** Households with incomes over $75,000 are 20 times more likely to have access to the Internet than those at lower income levels, and nine times more likely to have a computer at home. Even at the lower income levels, urban households are twice as likely to have Internet access as rural households.

- **There Are Also Racial and Ethnic Differences.** Whites are more likely to have access to the Internet **from home** than are African Americans and Hispanics **from any location (e.g., work, school).** Even controlling for income, African Americans are less likely than whites to use the Internet.

- **And, These Disparities Are Growing.** This economic and racial and ethnic "digital divide" has actually widened since 1994, especially between whites and African Americans, between households in the highest and lowest income groups (a 30 percent increase in the gap), and between households in the highest and lowest education-level groups (a 25 percent increase in the gap).

According to this same report, one of the most important factors helping to reduce the digital divide is the growing availability of entry points for low-income persons at schools, community-based centers, and public libraries. For example, people without computers at home are 1.5 times more likely to obtain Internet access through libraries and community centers than those with home computers. Similarly, the NPR (2000) poll cited above indicated that schools are a great force for equalizing economic and racial differences. For example, the difference in computer use at home between African Americans and whites (44 percent vs. 76 percent), and by income (41 percent for low income and 83 percent for high income), is erased when examined for the use of computers at school (60 percent vs. 55 percent for African Americans and whites; 59 percent vs. 56 percent for low- vs. high-income). According to Chambers, et al. (2000), 58 percent of the new computers in high-poverty elementary schools were obtained through federal programs such as Title I of the Elementary and Secondary Education Act (ESEA) and Title III of ESEA, the Technology Literacy Challenge Fund (TLCF).

Technology And Education

Technology, particularly access to the new cutting edge world of telecommunications, has quickly expanded into the nation's schools, matching its rapid penetration into the workplace and mainstream society. Proponents of the expanded use of computers in school foresee important transformations tied to the use of newer cutting edge developments—multi-media computers, broad bandwidth communication "pipes," and widely distributed connectivity to the Internet exposing teachers and students to an exciting world of synchronous distance learning, "streamed broadcast" of audio and video, and a host of other digital advances. For many schools, however, especially those in high-poverty and geographically isolated communities, a lack of access to this new technology is a serious problem (as are a lack of adequately trained technical and instructional staff, and other more mundane problems such as inadequate electrical power and space).

The Use of Computers In Schools

During the past 20 years, the role of the computer in American schools has expanded as its capacity as a learning tool has changed, and it has increasingly become an integral part of daily classroom life. In particular, the Internet has exposed students to topics that they could previously only find in textbooks or at the library, has enabled teachers to enrich their classroom instruction, has provided increased opportunities for teacher professional development (e.g., through distance learning), and increased the efficiency of routine administrative tasks (e.g., recording grades).

One of the earliest applications of the computer to the classroom was to supplement or augment the teacher through the use of "computer assisted instruction" (CAI)[5] to teach the traditional curriculum primarily focusing on the acquisition of basic skills. A considerable amount of research has been done on these types of computer applications and the results have been summarized by numerous authors (for a recent summary see Kulik, 1994). For the most part, this research has shown positive effects on student achievement, and on student attitudes toward learning, but not in all subject areas. In the 1970s, there was a shift to the teaching of computer programming in many schools (e.g., using languages such as LOGO, Pascal, BASIC, and Cobol) in the belief that it would foster cognitive development through the solving of increasingly complex problems.

In the 1980s, technological advances in both hardware and software allowed the computer to become more classroom-friendly. The computer was no longer just for programming, but it did remain primarily an adjunct to the classroom teacher with a continuing emphasis "…on the teaching of basic skills" (Fouts, 2000). If students needed work on multiplication, they could use "drill and practice" software, or if a student needed work on spelling or a math concept, they could use tutorial software to work on these skills. The computer also allowed teachers to work with smaller groups of students in the classroom while others worked alone on computers to hone their skills.

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[5] Other terms used for this type of computer use in schools include "computer based education" (CBE), "computer based instruction" (CBI), "computer managed instruction" (CMI), and "computer based learning" (CBL).

In the late 1980s and early 1990s, schools began to move away from this tutorial mode by using the computer to transform schools and classrooms into "electronic" learning centers that, according to advocates, have the potential to increase both the quality and efficiency of classroom instruction, and raise student motivation to learn (American Association of School Administrators, 1996; Glennan & Melmed, 1996; Means & Olson, 1995). According to Fouts (2000), this new transformational role uses educational technology to: (1) provide opportunities for drill and practice basic skills but with increasingly sophisticated software and other digital resources; (2) provide simulations (e.g., virtual science labs) and real world experiences to develop cognitive thinking and to extend learning; (3) increase access to a wealth of information and enhanced communications through the Internet and other related information technologies; and, (4) create sophisticated multi-media products, manage information, and solve problems using ever more sophisticated software.

In this new view of education, computers are no longer necessarily seen as a supplement to the classroom (i.e., reinforcing what is taught by the teacher), but the foundation around which teaching and learning can take place. Teachers, in their new role, will move from being "the sage on the stage to the guide on the side" as computer-based learning environments become student-, knowledge-, assessment-, and community-centered with authentic learning taking place through real world applications. For example, in the Apple Classrooms of Tomorrow whose goals were "…to encourage instructional innovation, and to emphasize to teachers the potential of computers to support student initiative, long-term projects, access to multiple resources, and cooperative learning," researchers found that teachers in technology-rich classrooms were more likely to leave their traditional lecture modes and engage students in cooperative group work (Schacter, 1999).

As Sherron & Boettcher (1997) note, we are also entering the "fourth generation" of distance learning with the growing availability of high bandwidth computer technologies that allow two-way interactive real-time capabilities of audio and video communication (both synchronous and asynchronous), and digital video transmission over the World Wide Web including on-demand video programming.

Beyond the changed teacher-student relationships, computers have another role to play in school as an educational management tool helping to increase the efficiency of day-to-day operations. Teachers and administrators in many schools are now able to use the computer for record keeping, to track grades and monitor student progress, and for school budgeting. Instead of dealing with mounds of paperwork, the computer can help increase time spent by teachers on instruction, and can provide more timely and comprehensive feedback to students (and parents) on their progress. It can also provide a means of increasing school and teacher accountability for student learning (Sanders & Rivers, 1996), and can improve communication with parents and other community members through the use of e-mail and Web sites.

The Advent of The Internet

One technology with great potential for producing these types of fundamental transformations of American education is the Internet. The Internet can allow students to learn outside the regular classroom, expand educational opportunities for rural and other isolated students, and allow educators to communicate with their colleagues in the United States and around the world. Students, with "the click of a button," can find and explore information that once would have required extensive library research, or may have been totally unavailable to them in their school or local library.

In 1994, 35 percent of all public schools were connected to the Internet, but five years later in 1999 access had increased to 95 percent of all public schools (NCES, 2000a).

More importantly, where there were once glaring differences, today all public schools, regardless of grade level, poverty concentration, or geographic location, are equally likely to have Internet access *in at least one room*. Similar, but slower, increases have been seen in private schools where access increased from 25 to 67 percent between 1995 and 1998. Private school access is higher in Catholic schools (83 percent) than in non-Catholic schools, higher in secondary schools (at 90 percent) than in elementary schools (at 64 percent), and higher in urban areas (at 72 percent) than in rural areas (at 58 percent) according to NCES (2000b).

Getting access to the classroom level, where the Internet can be better integrated into daily instruction, has been more difficult and significant inequities in access at this level still exist today. In 1999, 63 percent of all instructional classrooms in public schools had Internet access, representing a dramatic increase from only three percent in 1994 (NCES, 2000a). But, the wealthiest schools (i.e., those with less than 11 percent of students eligible for free and reduced-price lunch) are far more likely than the poorest schools (71 percent or more eligible for subsidized school meals) to have classroom access (74 percent vs. 39 percent), and the level of classroom access in poor schools has remained stagnant over the last year despite increased federal and state efforts to level the playing field (NCES, 2000a).[6]

At 25 percent of all instructional rooms in 1998, private school access lags far behind that observed in public schools, but this level of access still represents a significant increase from five percent of all private school classrooms in 1995 (NCES, 2000b). Non-sectarian private schools have the highest level of classroom access (41 percent), and there are also significant differences by the concentration of minority students —close to one-third of the classrooms are connected in private schools with less than 50 percent minority students compared to 10 percent in schools with more than 50 percent minority students (NCES, 2000b).

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[6] The observed slow change at the classroom level may, in part, be due to lags in the availability of federal funds intended to increase the growth of telecommunications in schools (i.e., the E-Rate), as well as a host of other factors that make this change more complicated than running a connection to the school building.

Changing Schools and Classrooms

Despite the highly touted expectations for educational technology, the promise of a "new day" in American schools has yet to create a fundamental change in how schools and classrooms operate. According to the 1998 Teaching, Learning, and Computing survey of more than 4,000 teachers in 1,100 schools (Becker, 2000), the use of computers in classrooms remains, on average, relatively low and "...computers have not transformed the teaching practices of a majority of teachers, particularly teachers of secondary academic subjects."

Of course, many factors can support, or hinder, efforts to bring about the anticipated educational reforms through the increased use of digital technology. Becker's (2000) results point to at least five sets of issues:

- ***Scheduling***—the rigid time blocks common in most schools limit what teachers can do in terms of computer projects (e.g., teachers in schools with longer time blocks reported higher uses during class time).
- ***Curriculum Coverage Pressures***—computer use is often seen as inhibiting teachers' ability to cover the required curriculum content.
- ***Classroom Access to Clusters of Computers***—teachers with a lower ratio of students to computers in their classroom reported greater use during class time, and classroom placement of computers is associated with higher use than placement in computer labs.
- ***Teacher Expertise and Comfort***—teachers who are most comfortable with the use of technology, and who have higher levels of expertise themselves, report the highest use of computers in their classrooms.
- ***Teacher Philosophy***—the more a teacher holds "constructivist" beliefs about what constitutes good classroom instruction (e.g., that students "construct" knowledge on their own), the greater the use of the computer in class.

In effect, the use of educational technology to improve instruction requires well trained teachers, sufficient technical support, and curriculum and instructional materials that integrate technology into day-to-day pedagogy rather than just treating it as an "add on" to old lesson plans. Too often there is an over-emphasis on new and exciting hardware and software without enough attention to these other, more fundamental, aspects of good education. According to Becker (2000),

> "...under the right conditions—where teachers are personally comfortable and at least moderately skilled in using computers themselves, where the school's daily class schedule permits allocating time for students to use computers as part of class assignments, where enough equipment is available and convenient to permit computer activities to flow seamlessly alongside other learning tasks, and where teachers' personal philosophies support student-centered, constructivist pedagogy that incorporates collaborative projects defined partly by student interests – computers are clearly becoming a valuable and well-functioning instructional tool."

There are two primary ways that technology can bring about the types of changes in American education that its proponents expect:

- **Change the Structure of the Delivery System.** Technology has the potential to have a major impact on the structural form of education. At the extreme, the wide availability of technology—especially as the Internet allows information and instruction to reach into more homes and community-based centers—can change education from a highly centralized activity (i.e., occurring in fixed school locations with large staffs of professionals) to one characterized by much greater heterogeneity and disaggregation. That is, the use of broadband telecommunications can place high-quality education into the hands of more "consumers" without the need for formal structured school organizations. Education can be changed from a "9 to 3 PM" phenomena to "anywhere, anyplace, anytime" process of human development.

- **Improve the Quality of Education.** Technology can also improve the capacity of the education system by: (1) providing an inexpensive source of professional development for teachers and administrators; (2) providing student access to specialized teachers and or information through "distance learning"; (3) allowing for the development of relatively low cost, but broadly implemented, quality control mechanisms that monitor the progress of large segments of the student population (or of the skills of the teaching staff); and (4) transforming school and teacher connections to parents and the community.

Despite these highly touted possibilities, others express concern about the unequal educational access to technology, particularly in schools with high concentrations of poor and minority students (Coley, Cradler, & Engel, 1997). Black, poor, urban, and rural students are less likely to have access to a home computer, be exposed to higher-order uses of computers in school, and have teachers who have the necessary training in technology (Wenglinsky, 1998). In addition, there are important differences between high- and low-poverty schools in the quality of the available equipment (e.g., older computers in high-poverty schools) and connectivity (e.g., slow modems, non-high-bandwidth connections; NCES, 2000a). Depending upon how schools change in the face of growing technology, the existing differences between the "haves" and the "have nots" may either be reduced or exacerbated.

Of equal concern is the previously noted finding that too many teachers are either unwilling, or untrained, to use the new forms of technology (Becker, 1990, 2000; Cuban, 1993; National Academy of Sciences, 1995; Technology Counts, 1998), and that relatively few teachers use computers for a significant part of their daily instruction. According to the National Center on Education Statistics (2000c), about two-thirds of all public school teachers use *computers or the Internet* for classroom instruction (computers and the Internet were not separated in the survey), and 41 percent assign students work involving these technologies, to a "moderate or large extent." In addition, 39 percent of public school teachers with access to computers or the Internet *in their classrooms* (i.e., a subset of all teachers as noted above) use this technology "a lot" to create instructional materials, 34 percent use it for record-keeping, 23 percent use it to communicate with colleagues, and only about seven percent use its full potential to prepare multi-media classroom presentations, communicate with parents, or to obtain information to assist with the preparation of lesson plans. These levels of instructional use are, not surprisingly, substantially lower in the poorest schools compared to low-poverty schools.

More important, the NCES (2000c) study showed that teachers with more technology-related professional development were more likely to make use of computers or the Internet for instruction, and only about one-third of all public school teachers reported feeling "very well" or "well" prepared to use computers or the Internet in their teaching. In fact, studies indicate that it is not simply access to technology that is important for students, but rather how teachers use it as a tool to enhance learning (Thompson, Simonson, & Hargrave, 1996). For example, a recent study on the use of computers for math instruction found that students of teachers who used computers for higher-order teaching in math did better on the NAEP tests, but students whose teachers used the computers for "drill and practice" of basic skills did worse (Wenglinsky, 1998).[7] As noted above, the recent work of Becker (2000) indicates that the conditions under which teachers are working, as well as their own skill level, is what may be the most important factor creating a positive effect. As a consequence of these and other similar findings, many experts have emphasized the need to increase the technology capacity of the nation's teaching force, and to more fully integrate educational technology into classroom pedagogy (Brown, 1997; Office of Technology Assessment, 1995; Coley, *et al.*, 1997; National Council for Accreditation of Teacher Education, 1997; Solmon, 1998).

What Does Technology Mean For Students?

Most research on the use of computers in education is based on work done during the early days of primarily "drill and practice" and computer-assisted instruction. Reviews of hundreds of such studies have generally concluded that certain types of software for narrowly prescribed basic skills instruction can raise student achievement test scores over time (Cuban, 2000; Kulik, 1994; Sivin-Kachala, 1998). According to Fouts (1999) much of the earlier research on educational technology also found that students were reported to learn more quickly and with greater retention when learning with the aid of computers, and that their attitudes toward learning and school were positively affected by the use of the computer for instruction.

Attempts to study the more modern uses of computers have, however, been limited and often plagued by weak research methods, particularly a lack of adequate comparison groups. Examples of recent works include the Apple Classrooms for Tomorrow (ACOT) Project (Dwyer, 1996), implemented in hundreds of classrooms, that reported positive effects on student attitudes and motivation. Means and Olson (1995) conducted case studies of modern technology in very disadvantaged schools and found higher levels of teacher-reported increases in student motivation and learning. The Center for Applied Special Technology (CAST, 1996) reported positive effects on student learning from the increased availability and use of the Internet for classroom instruction. Finally, Mann, Shakeshaft, Becker, & Kottlamp (1999) studied West Virginia's Basic Skills-Computer Education (BS-CE) program by examining the progress of 950 fifth grade students in eight schools. According to the authors, the use of technology to improve students' basic skills in reading and math resulted in small positive increases in test scores, especially for rural and low-income children.[8]

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[7] Some critics have, however, questioned these findings on the basis of a variety of concerns including the cross-sectional nature of the NAEP data that were used (i.e., an inability to control for students' prior levels of achievement), the weak measurement of computer use and teacher expertise in using technology in the NAEP data, and, on average, levels of technology use are low in most classrooms.

Given the limited research knowledge base on the effects of computers—and particularly the Internet—on student achievement, the President's Committee of Advisors on Science and Technology (PCAST) issued a 1997 report on the use of technology to strengthen K-12 education. As part of that report, the committee recommended a broad research agenda, including empirical studies to determine which approaches to the use of technology are most effective.

Department of Education's Technology Initiatives

The Technology Literacy Challenge Fund (TLCF), authorized in 1994 as part of the Elementary and Secondary Education Act, is the Department of Education's single largest investment dedicated specifically to increasing the effective use of technology in the nation's elementary and secondary schools, particularly for those communities with high concentrations of poor children. In 1997, the program's first year of operation, $200 million was appropriated for the TLCF program. States used these funds to make awards to local school districts.

In addition to TLCF, the Department provides extensive support for the acquisition of computers and other technology-related services through a number of programs including: the Title I program; Technology Innovation Challenge Grants (TICG) that complements TLCF by supporting demonstration projects designed to generate models of effective uses of educational technology in schools; Star Schools that support the use of technology for distance learning opportunities for students and teachers; Preparing Tomorrow's Teachers to Use Technology (PT3) that supports innovative reforms in teacher preservice training related to the classroom use of technology; and, Learning Anytime Anywhere Partnerships (LAAP) that seek to improve the use of emerging technologies in distance learning for postsecondary education and training. According to the U.S. Department of Education, student-to-computer ratios have dropped dramatically, and the percentage of classrooms connected to the Internet has soared, since enactment of the TLCF and the TICG programs in 1994 and prior to the enactment of the E-Rate program. In the 1998-99 school year, the average number of students per instructional computer was 5.7, a significant drop from 9.1 students per computer in 1993-94.[9] In 1999, 63 percent of classrooms were connected to the Internet, compared to three percent in 1994 (NCES, 2000a).

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[8] These findings differ from those reported above by Wenglinsky, 1998. This is likely due to the availability of data on students' prior achievement levels, and a focus on a single technology application.

Evaluation activities at the U.S. Department of Education address what can be learned from these federal investments in educational technology, the effectiveness of federal programs involving educational technology, and how the federal government can best help meet the four National Technology Goals:

- Teachers will have the training and support needed to help students use computers and the Internet to learn.
- Classrooms will have modern multimedia computers.
- Classrooms will be connected to the Internet.
- School curricula will use software and on-line learning to ensure that no child is left behind.

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[9] Market Data Retrieval, *Technology in Education*, 1999.

Partly in response to the challenge to expand our current knowledge about educational technology, as well as the need to report program performance under the Government Performance Results Act (GPRA), the U.S. Department of Education is sponsoring a variety of new evaluation initiatives:

- ***Longitudinal Evaluation of High-Intensity Technology Sites (HITS)***—This study, conducted as part of the contextual study of TLCF, will consider how technology, when used under optimal conditions, leads to improved student outcomes, how teachers who make extensive use of technology integrate it with curriculum and instruction, how technology affects the content of the curriculum and the quality of instruction, how this integration affects student learning, and whether different types of uses of technology have different effects.
- ***Preparing Tomorrow's Teachers to Use Technology (PT3)***—This study evaluates the activities, strategies and trends used by PT3 grantees to prepare future teachers to effectively integrate technology into classroom practice.
- ***Formative Evaluation of the Learning Anytime Anywhere Partnerships (LAAP)*** — This evaluation focuses on the 29 projects funded in fiscal year 1999 and includes: the review and analysis of annual reports; establishing baseline program data; and designing a multi-year evaluation plan for assessing LAAP's effect on the practice of distance education and "best practices" in the field.

In addition to the activities described above, the Department's Planning and Evaluation Service (PES), in collaboration with the Department's Office of Educational Technology (OET) and the Schools and Libraries Division of the Universal Service Administrative Corporation (under the direction of the Federal Communications Commission), is working with SRI International (SRI), the Urban Institute (UI), and the American Institutes for Research (AIR) to coordinate multiple research activities examining various issues related to educational technology. Collectively called the Integrated Studies of Educational Technology (ISET), this combined project consists of the following components:

- ***Supplemental Study of the Technology Literacy Challenge Fund***—AIR is collecting and analyzing information about the implementation and outcomes of TLCF at the state and local levels. Drawing upon sources such as the annual state TLCF performance reports, local technology plans, and surveys of states, districts, schools, and teachers, this study will produce a nationally representative picture of TLCF's contributions to the availability and use of technology in schools and provide information on targeting, flexibility and other key aspects of the program.

- ***Professional Development for the 21st Century Classroom***—This component (one of four studies under the Policy and Practice for the 21st Century project conducted by SRI and UI) will consider what represents best practices in professional development for teachers with respect to educational technology. It will draw heavily on the professional development literature, review the current status of professional development in educational technology, and study the circumstances under which professional development in the instructional use of technology results in changes in teaching and learning. The study will include the same ISET state, district, school, and teacher surveys, and longitudinal case studies in a sub-sample of districts surveyed.

- ***Formative Evaluation of the E-Rate***—This study (also part of the Policy and Practice for the 21st Century project) will analyze the extent to which the E-Rate is equalizing access to educational technology and the extent to which educational technology is integrated with systemic reform efforts to improve teaching and learning in schools and districts using the E-Rate. The study will include an analysis of the existing data on the E-Rate, a review of E-Rate applicant technology plans, and the combined ISET surveys.

- ***ET Policy and Data Use Practices in States and Districts***—This study (also part of the Policy and Practice for the 21st Century project) will produce profiles of policy and data use practices regarding educational technology for all states and a sample of districts. The profiles will provide a framework for key indicators on the implementation and effective use of educational technology, provide valuable information for policymakers and practitioners, and are intended to support data-driven decisionmaking. The study also will include an analysis of the data presented in the profiles and the development typologies of approaches to policy and data use practice.

- ***TLCF Partnerships for Evaluation***—Finally, to help strengthen state and local data managers assess the effects of educational technology, this final part of the Policy and Practice for the 21st Century project will support partnerships between researchers and a limited number of states and districts to develop models of performance management.

This report focuses on the Formative Evaluation of the E-Rate, described in more detail below.

The Formative Evaluation of the E-Rate Program

As noted above, one component of the ISET is a formative evaluation of the E-Rate (see Chapter II for a description of the program) that is primarily designed to equalize access to educational technology for poor and isolated schools and libraries. However, to have a significant effect on the technology skills and academic achievement of children in those schools and communities, the program's benefits must be well integrated into the broader goals and operations of the recipient institutions. It must also work in coordination with other federal, state, and district technology programs and initiatives. This perspective defines two broad research questions for this formative evaluation:

- ***To What Extent does the E-Rate Equalize Access to Educational Technology?*** Issues to be addressed under this category focus on differences in access to, and use of, educational technology in different states, and in different types of districts, schools, and libraries. This includes an examination of the degree of variation by indicators such as the concentration of poor or minority students, urban/rural location, and region or state, as well as by the level of technology sophistication (e.g., access to cutting-edge digital technology).

- ***What is the Role of E-Rate in the Broader Context of Student Learning?*** Issues to be examined under this category focus on the extent to which E-Rate participants have the necessary tools and infrastructure to make effective use of the technology provided through the program, and how participants combine different resources (particularly different federal sources of technology funds) to create effective educational technology systems designed to foster higher student achievement.

Answers to these questions will be obtained through three linked study components:

- ***Analysis of E-Rate Administrative Data***—This initial component uses available data, both from administrative program records and relevant research studies, to answer questions primarily related to the distribution of E-Rate funds (who gets it? who does not? how much do they get?), how the E-Rate funds are used to acquire technology (what do the recipients do with the E-Rate subsidies?), and how E-Rate interacts with other funding sources (does E-Rate help leverage other sources of public and private funding for technology?).

- ***Nationally Representative Surveys of Districts, Schools, and Teachers***—Because available data cannot answer all of the relevant questions for this study, primary data collection is also being conducted with technology directors in all 50 states, technology coordinators in a national sample of 850 districts,[10] principals and/or technology coordinators in a sample of 950 schools within those districts, and a sample of 1,200-1,400 teachers from 400 of the selected schools. These data will, in part, be used to describe how the E-Rate program has affected access to and use of technology, barriers to the effective use of the E-Rate, and the program's role in the broader context of school reform.

- ***Analysis of Educational Technology Plans***—This final component will examine technology planning and how E-Rate subsidies have been incorporated into a broader vision for educational technology, especially the degree of alignment and coordination with other existing programs and policies. To meet this objective, the national survey will be used to collect technology plans from a representative sample of 200 of the sampled ***school districts*** that are participating in the E-Rate program.

The surveys will be conducted in the Fall of 2000, and a final report on the entire ISET project will be available by late 2001. The following chapters present the results of the analysis of existing data described above.

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[10] A separate survey of financial officers in a subset of districts will also be conducted.

Chapter II: The E-Rate Program

The E-Rate, authorized by Congress as part of the Telecommunications Act of 1996, builds on the goals of the 1934 Communications Act that was intended *"to make available, so far as possible, to all the people of the United States, a rapid, efficient nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges."* The E-Rate provides all public and private schools and libraries (and certain consortia of eligible institutions) access to affordable telecommunications and advanced digital technologies. In doing so, it expands their technology capacity, and by freeing up resources that would have otherwise been spent on telecommunication expenses, allows scarce resources to be used to support other aspects of needed technology infrastructure, especially the critically important area of staff professional development (see Chapter I).

Program History

In 1993, President Clinton created the National Information Infrastructure Advisory Council (NIIAC), chaired by Vice President Gore, to focus on the development of a national network of telecommunications services. The Council's final report (NIIAC, 1995) recommended, among other things, that a national goal be set *"...to deploy Information Superhighway access and service capabilities to all community-based institutions that serve the public such as schools and libraries by the year 2000."* Within a year, Congress had passed the Telecommunications Act of 1996 that created the E-Rate program.

Following passage of the 1996 legislation, the Federal Communications Commission (FCC) established the Federal-State Joint Board on Universal Service to obtain public input on how the program should be operated. The Department of Education was actively involved during this initial planning process, coordinating and reporting on the collection of public comments for the Board's deliberations.[11] After much debate between industry and representatives of schools and libraries, the FCC adopted the Board's recommendations (prepared with input and assistance from the Department of Education), and created the Schools and Libraries Corporation (SLC) to implement the program along the lines of the Board's main recommendations. On January 30, 1998, the SLC opened the first period of E-Rate applications, receiving more than 30,000 applications involving requests for a total of more than $2 billion.

In 1998, GTE, BellSouth, and SBC Communications filed lawsuits (later consolidated into a single legal proceeding) seeking to block implementation of the E-Rate by the FCC. The litigants claimed that the E-Rate represented an illegal tax because phone companies were unwillingly required to pay into the Universal Service Fund, and that the FCC had unfairly excluded Internet providers from paying into the Fund. This debate soon spilled over into Congress with members charging that the FCC had exceeded its authority by creating a private corporation to administer the E-Rate, and raising concerns about the inclusion of internal building wiring among services that would be eligible for E-Rate subsidies.

Subsequently, AT&T, MCI, and Sprint began charging customers a "universal service" fee on their phone bills setting off increased Congressional and public debate over the E-Rate. The Consumers Union and the Consumer Federation of America joined the opposition claiming the E-Rate represented an "unfair price hike" for consumers. At the same time, the General Accounting Office (GAO) released a report concluding that the FCC had indeed violated the 1945 Government Corporation Control Act by establishing a corporation without explicit Congressional approval.

The education community—that had from the outset expressed strong support of the E-Rate—launched a quick counter-offensive, the "Save the E-Rate" campaign, fearing that the FCC would terminate the program. (This initial effort subsequently led to the formation of the Education and Libraries Networks Coalition, or EdLiNC, to provide continuing support for the program, and assistance to eligible institutions.) In June 1998, the FCC announced that in response to the controversy it would scale back the planned funding cap from $2.25 billion to $1.9 billion, and would spread the funding over a longer "first year" period of 18 months extending through June 1999. This lengthening of the time period was also intended to align the E-Rate with the regular school year. Concurrently, the General Accounting Office (GAO, 1998) issued reports criticizing the management oversight of the program. GAO's criticisms led to the FCC's decision to abolish the SLC and to create the new School and Libraries Division (SLD) as part of the Universal Service Administrative Company (USAC) under the direction of Kate Moore, Chief Operating Officer.

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[11] See, for instance, the letter from the Secretary of Education, Richard W. Riley, to the Chairman of the FCC, Reed E. Hundt, on July 31, 1997, included in Appendix D of this report.

In November 1998 the first wave of E-Rate commitments were issued and in December the application period for Year 2 was begun (covering July 1999 through June 2000). Both events helped solidify support for the E-Rate. By March 1999 the SLD completed its first round of awards providing nearly $1.7 billion to about 26,000 eligible schools and libraries (see Exhibit II.1). This was soon followed by the closing of the second round of applications in April with a total of more than 32,000 applicants (a 7 percent increase from the first year of the program) totaling $2.4 billion (expected commitments will reach $2.25 billion). This flow of funds, and the acquisition of equipment and services by thousands of schools and libraries, quickly increased support for the program. In fact, BellSouth and SBC decided to withdraw from the federal lawsuit, leaving only GTE as a litigant. In July 1999 the Court of Appeals, 5th Circuit refused to uphold GTE's complaint, and in May 2000 the U.S. Supreme Court, by refusing to hear the litigants' appeal, closed the door on this line of opposition to the E-Rate.

In October 1999 the SLD announced plans to fully fund the second round of applications. The Year 3 application period began in October 1999 and when it closed in January 2000 there were a total of more than 36,000 applications requesting discounts totaling $4.72 billion, exceeding the combined requests from the first two years of program operations.

Exhibit II.1: E-Rate Funding History

Funding Year	Total Applications	Total Commitments	Period of Funding Commitments
YEAR 1 -- 1/98 to 6/99 (18 months)	30,120	$1.66 billion	Application period, 1/98 to 4/98; commitments issued, 11/98 to 3/99; funds could be used from 1/01/98 to 6/30/99 for recurring services, with an extension through 9/30/99 for non-recurring services.
YEAR 2 -- 7/99 to 6/00 (12 months)	>32,000	$2.25 billion	Application period, 2/98 to 4/99; commitments issued, 7/99 to 2/00; funds could be used from 7/01/99 to 6/30/00 for recurring services, with an extension through 9/30/00 for non-recurring services.
YEAR 3 -- 7/00 to 6/01 (12 months)	>36,000	$4.72 billion (requests)	Application period, 10/99 to 1/00; issuance of commitments began 4/00 and is ongoing; funds can be used from 7/01/00 to 6/30/02.

Note: These data were obtained from the SLD official web site as of 8/2/00: www.sl.universalservice.org.

As an indication of the growing support for this type of universal service, a 1999 survey of 1,000 American households (EdLiNC, 2000) found that 87 percent support the use of public funds to help needy schools and libraries obtain needed technology, and 83 percent think that Internet access could improve educational opportunities for all Americans.

Program Operations

The E-Rate program, as noted above, is administered by the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC) under the direction of the Federal Communications Commission (FCC). As shown in Exhibit II.2. eligible schools and libraries may receive discounts on eligible telecommunication services ranging from 20 percent to 90 percent, depending on economic need and location (urban or rural). The level of discount (i.e., schools and libraries pay less than market cost to obtain eligible equipment and services) is based upon the percentage of students eligible for participation in the National School Lunch Program or other federally approved alternative mechanisms contained in the Elementary and Secondary Education Act (ESEA). For libraries, the discount rate is based on the poverty level of the school district in which they are located.

Exhibit II.2: E-Rate Discount by Poverty Concentration and Urban/Rural Location

Poverty (Percent Students Eligible for Free and Reduced-price Meals)	Discount: Urban Location	Discount: Rural (Non-urban) Location
Less than 1%	20%	25%
1% - 19%	40%	50%
20% - 34%	50%	60%
35% - 49%	60%	70%
50% - 74%	80%	80%
75% - 100%	90%	90%

Eligible institutions may participate as part of multiple E-Rate applications. In addition, a school or library can apply for discounts as part of a consortium with other entities within its community (e.g., with other schools, libraries, governmental entities, or health care providers). It may also apply as a part of a consortium with private, for-profit entities, i.e., consortia may include both eligible and ineligible entities that are not entitled to a discount. Entities not eligible for universal service discounts, however, may benefit from lower *pre-discount* prices from market aggregation. Participation in a consortium can provide several advantages to participants: aggregating demand attracts competitors and facilitates negotiating lower prices; consolidating services achieves improved efficiency; and sharing network infrastructure, other facilities, and technical knowledge can result in lower costs for all members.

The E-Rate discounts are paid directly to the companies that provide services to the approved schools and libraries (and consortia), and can be applied to commercially available telecommunications services, Internet access, and internal connections. Eligible services range from basic local and long-distance phone services, and Internet access services, to the acquisition and installation of equipment to provide network wiring within school and library buildings. Computer hardware and software, staff training, and electrical upgrades are not covered, however. Applications are prioritized for funding based on the level of discount (higher discounts are given higher priority) and the type of services requested. For example, applications requesting internal connections (i.e., connections to classrooms and workstations) in Year 1 were only funded for applicants with discounts from 70-80 percent because of funding shortfalls relative to total E-Rate requests.

The E-Rate Application Process

The E-Rate application process consists of six basic steps that all participants must follow:

1. ***Prepare a technology plan that meets SLD criteria.*** SLD rules require that each school or library develop a technology plan to ensure that it has the ability to effectively use the discounted services once they are purchased. Qualifying technology plans must cover a three-year period, and must specify how the entity plans to integrate the use of these technologies into its curricula and/or programs, including: How can information technology help schools and libraries achieve a vision for an improved school or library? What telecommunications services, hardware, software, facility upgrades, maintenance, and support services will schools and libraries need to reach their goals? How will school and library staff learn to use networked information technologies for improved education or library services? In addition to the share of discounted services, how will schools and libraries pay for computers, training, software, and support services that the E-Rate does not cover? How will schools and libraries know if the information technology investment is helping them reach their goals for improved education or library service? Schools and libraries must also certify that they have funds budgeted and approved to meet their financial obligations to pay for the "non-discounted" portion of their requested services and to pay for the other components, set out in their technology plans, for the current funding year.

2. ***Submit a "Form 470 Request for Services."*** Once a technology plan has been prepared, the next step is to notify the SLD of the services and/or equipment that are needed. This is done by submitting a Form 470 either in hard copy or by posting it on the SLD web site.

3. ***Collect bids from vendors and select sources through a competitive bidding process.*** The submission of a Form 470 launches a 28-day competitive bidding period, during which vendors contact applicants to bid on the requested services. Entities must wait at least 28 days from the date of the Form 470 before signing any contract or making other arrangements for new services. However, applicants are expected to follow their regular state or local competitive bidding processes or timeframes.

4. ***Submit a "Form 471, Services Ordered and Certification."*** After service providers have been selected and contracts signed, applicants file a Form 471 to apply for E-Rate discounts. This form may be filed as soon as the "window" for submission is opened by the SLD, as shown above in Exhibit II.1. (A copy of this form, the primary source of data used in the report, is provided in Appendix C.)

5. ***Receive notification from SLD of approved acquisitions.*** After the Form 471 application has been reviewed, the SLD issues a Funding Commitment Decision Letter, which is the written communication to applicants telling them the level of E-Rate funding that has been allocated for E-Rate-eligible services. Each requested service is assigned a Funding Request Number and is approved or disapproved individually. The SLD also notifies vendors of the approved funding commitment.

6. ***Implement services.*** Once the entity has received its services and/or equipment, funds are disbursed by the SLD directly to the vendors.

As noted above, there are separate annual funding cycles allowing a 75-90 day window for the submission of Form 470's. Funding decisions by the SLD are made in waves within each funding-cycle beginning with those institutions eligible for the highest discounts and with the most basic services (e.g., basic telephone). Waves of funding continue until all requests are met or until the budget is depleted.[12]

Research On The E-Rate Program

The only major research conducted to date on the E-Rate is a very recent set of case studies of four large urban districts—Chicago, Cleveland, Detroit, and Milwaukee—conducted by the Benton Foundation. According to the author (Carvin, 2000), four common themes emerged from the case studies:

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[12] For more information on the E-Rate, see http://www.sl.universalservice.org/SLC.

- E-Rate discounts allowed the districts to achieve faster deployment of their computer networks and Internet access.

- The funds allowed the districts to leverage other funds for technology.

- Coordination between technology and instructional administrators was increased.

- Professional development for teachers is critical for the increased availability of modern technology.

- The SLD procedures have strained relationships between districts and vendors (e.g., SLD requires recipients to have in hand the full pre-discount cost of the services, there have been delays in obtaining reimbursements for the discounts from vendors, and there have been strains placed on vendors' inventories and labor to provide the needed equipment and services).

- Participants had difficulty obtaining infrastructure that was not supported by E-Rate (electrical upgrades, computer hardware), and this has limited the ability of schools to take full advantage of the equipment and services that the E-Rate can provide.

In addition, EdLiNC has conducted surveys of E-Rate participants in 1998-99 (EdLiNC, 1999) and again Spring 2000 (EdLiNC, 2000), and has reported some of the same general types of findings about the E-Rate program:

- In a national household poll 87 percent of respondents supported the introduction of information technology into American schools and libraries.

- Demand for the financial assistance is strong from both schools and libraries, and the E-Rate discounts are reported to be increasing the pace of bringing technology to many under-served areas.

- E-Rate discounts are reported to help expand overall investments in technology by allowing schools and libraries to reinvest the savings in other important technology needs, and have helped attract new sources of technology funds, and the funding has allowed participants to leverage.

Based on these early reports, it appears that the program is supporting the expansion of technology into the nation's schools, in spite of the expected dislocations associated with program start-up. But, it is also clear that much more needs to be learned about the role of E-Rate in helping to bring about the hypothesized improvements in American education.

Chapter III: Research Methodology

As discussed in Chapter I, the ISET project includes a formative evaluation of the E-Rate that begins with an analysis of E-Rate administrative data to shed some light on how the funds are being distributed to eligible districts, schools, and libraries. Although the planned surveys will deepen our knowledge about educational technology—and the important role being played by this new federal program—much can be learned from data already available. This chapter describes the methods used to create an analytical data set, and Chapter IV presents the results of this initial analysis.

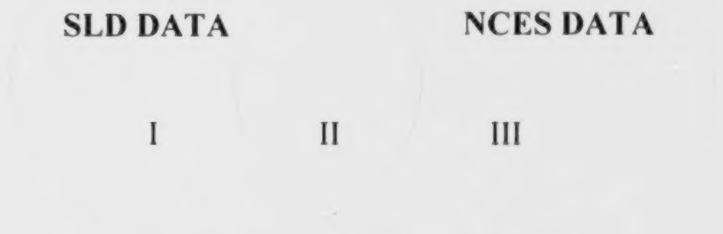
Overview of the Methodology

To understand how E-Rate funds are being distributed, one could simply examine information available from the SLD that documents: which institutions applied for, and received, discounts on eligible services and equipment; the amounts they received; and, how the funds were used. Such an analysis would, however, be limited in its description of the participating institutions to the data that are available from the SLD, and would be unable to describe the extent to which the E-Rate has "penetrated" the eligible pool of applicants. That is, without having information on the complete population of eligible entities (i.e., including the non-applicants) one cannot gain an understanding both of the program's true level of participation, and of how funds have been distributed among eligible institutions (e.g., are benefits disproportionately going to the poorest schools?).

To overcome these limitations, a major effort was undertaken to merge information obtained from the SLD on all applications received through January 4, 2000 (i.e., all Year 1 and Year 2 applications, plus partial Year 3 applications) with the best available information on the universe of all potentially eligible public school districts and schools, private schools, and libraries available through the U.S. Department of Education's National Center on Education Statistics (NCES). This process of merging the SLD data with information from NCES provided an opportunity to identify those entities that did

not apply for E-Rate discounts, and to examine the characteristics of both applicants and non-applicants.

The following diagram illustrates the approach used, and its potential drawbacks (this diagram is not drawn to scale). In this illustration, the left-hand circle (the combination of sections I and II) represents the population of E-Rate applicants (i.e., districts, schools, or libraries that applied for E-Rate). The right-hand circle (the combination of sections II and III) represents the measured or known "universe" of eligible institutions (i.e., all of the schools, districts, and libraries in the U.S. that ***could*** apply for E-Rate). The slice where the two circles intersect (labeled section II) represents those E-Rate applicants that are included in the "universe" file, and for whom we can obtain additional information not available in the SLD data files; those institutions in section III are considered to be non-applicants. (The "application rate" is the ratio of section II—all applicants—to the sum of sections II and III, i.e., all those that are eligible).



The problem with these calculations, however, is the existence of section I, i.e., E-Rate applicants for which there are no matching entries in the NCES list of all such institutions. For example, section I in the illustration would include public schools that, according to the SLD, have applied for and received E-Rate discounts but which are not included in the "official" NCES list of all public schools in the nation (e.g., new charter schools). The larger the size of this "unmatched" pool of E-Rate applicants (and/or funded entities) the greater the uncertainty about the "true" rate of application for the program. That is, the greater the exclusion of potentially eligible institutions from the "universe" list, the more this type of analysis is likely to under-state the program's degree of participation and coverage. And, the more this unmatched group has different characteristics than the group for which information is available (e.g., a higher probability of missing "wealthy" schools), the greater the uncertainty about the distributive equity of E-Rate applications and funding.

Because of the importance of this data-merging step for the subsequent analysis, a great deal of effort was put into this aspect of analysis process. As a consequence, the rest of this chapter (and Appendix B) provides greater detail about the methodology used to create an analytical data file that combined information from the SLD and the NCES. Chapter IV presents the analytical results, and Chapter V discusses the overall patterns and their implications for the E-Rate; readers who do not wish to read the methodological details can proceed directly to a discussion of the findings in Chapter IV.

Description of the Data

Four different data sets were used for the analysis described in this report—administrative records of E-Rate applications and commitments obtained from the SLD under a special confidentiality agreement, and three data sets from NCES. Each data source is described below.

SLD Data on E-Rate Applications

The data received from the SLD describe many aspects of the E-Rate program, but for our purposes, three types of information were important for this analysis:

- ***Identification of Applicants or Billed Entities.*** A Billed Entity applies for E-Rate funds by completing an application (a Form 471) which, when approved, creates an SLD funding commitment. For example, a school district might apply for funds on behalf of all, or only some, of its schools. Each Billed Entity is assigned a unique Billed Entity Number (BEN) and, for convenience, the entities are hereafter referred to as **BENs**.

- ***Identification of Additional Service Sites.*** On each application for funding, the Billed Entity is asked to identify, under Item 14 of the application form, the sites that will receive discounted services. For example, the "Evergreen school," a member of the "New City School District," would be listed in Item 14 on the New City District's application for E-Rate discounts. Again, for convenience, we will hereafter refer to these service sites as **I14s.**

- ***Funding Requests.*** In addition, each application must specify the particular equipment or services for which discounts are being requested. Each type of service is designated as a separate "funding request" for the Billed Entity that may or may not be approved by the SLD. For example, a school district might request approval for internal connections from a local cabling company for $10,000, and telecommunications services from the local telephone company for $20,000. These two services are each designated as a separate funding request by the SLD for the same Billed Entity.

As part of the process of matching the SLD and NCES data sets, information on both BENs and I14 entities was matched to the relevant universe of potential applicants (i.e., matches were done independently for public districts, public schools, private schools, and libraries). In the administrative data that were provided by the SLD, there were a total of 29,477 unique BENs for Years 1, 2, and for part of Year 3, representing a total of 82,012 applications (i.e., Form 471s).

Each E-Rate application includes a range of data elements (see Appendix C), but what is important for the purposes of matching with the NCES data files are the data elements that are common to both information sources. The simplest way to link the data files for districts, schools, and libraries would be to use the unique identification number that is assigned by NCES as part of its ongoing surveys (a similar unique identifier is not available for consortia, or other eligible institutions). Unfortunately, this information was only available for about half of the BEN-level entities, and was almost always missing for the private schools and libraries. This missing data required the use of other information contained in each data record—the name of the Billed Entity, an address (number, city, state, and zip code), and a phone number—that could be matched with similar data fields in the NCES surveys.

There are also a total of 729,601 service site records (i.e., I14s) included as part of these same applications, that generally provide an entity name (that can differ both within and across application years due to changes in spelling on different application forms), and in some cases an NCES code. All other identifying information must be drawn from the BEN or application level. Therefore, when the NCES code is missing, information from the parent BEN (e.g., a school district) must be used as a proxy for that of the I14 service site (e.g., a local elementary school).

As noted in Chapter II, there are several types of institutions that can apply for E-Rate discounts—public schools (and organizations of public schools, including districts, state education agencies, or consortia formed for the purpose of obtaining E-Rate funding), private schools (and organizations of private schools such as dioceses of parochial schools), libraries (including library systems and library outlets), and any combination of the above categories. These different types of E-Rate applicants are listed in Exhibit III.1, along with the NCES data source used to define each population of eligible applicants.

Exhibit III.1: Types of E-Rate Applicants and Their Corresponding NCES "Universe" Data Source

Type of E-Rate Applicant	NCES Data Source
Public schools	1997-98 Common Core of Data, Schools (CCD-S)
"Special" public schools (e.g., vocational-technical schools, schools for the deaf and blind)	None (some are included in the school or local agency files)
Public school districts	1997-98 Common Core of Data, Local Agencies (CCD-A)
Private schools	NCES 1997-98 Private School Survey (PSS)
Organizations of private schools (e.g., Dioceses)	None
Library systems	NCES 1996 Public Library Survey (PLS)
Library branches (outlets)	NCES 1996 Public Library Survey (PLS)
Consortia	None
Other eligible entities (e.g., educational administrative units)	None

Each of the listed data sources is described below:

- ***Public School Districts and Schools.*** The Common Core of Data (CCD), administered by the NCES, is an annual census of public schools, districts, and state agencies. The **CCD-School** file for the 1997-98 school year (the most recently available data when this analysis was begun in January 2000) includes data for 92,357 schools of which essentially all have the needed matching information.[13] The **CCD-Agency** (district) file, also for the 1997-98 school year, includes data for 16,555 districts of which essentially all have the needed matching information.[14]

- ***Private Schools.*** The **Private School Survey (PSS)** is a biennial survey of private schools also administered by NCES. It is a reasonable approximation of the universe of private schools, although generally understood to not be as complete a picture of private schools as the CCD is of public education entities. The **PSS** for the 1997-98 school year (again, the most recent data available as of January 2000) includes data for 30,255 private schools of which most have the required matching information.[15]

- ***Public Libraries.*** The **Public Library Survey (PLS)** is conducted annually by the NCES. Detailed questions are answered by library systems, and some information is provided about library outlets (i.e., branches). The **PLS System Component** for 1996 includes data for 8,946 **Library Systems**, and the **PLS Outlet Component** includes data for 16,879 library outlets. However, unlike public schools and districts (that have separate ID numbers assigned by the NCES), library "systems" can themselves also be library outlets: for example, the Martin Luther King Library of Washington, D.C. is both an outlet of, and the head of, the Washington, D.C. Library system. Consequently, 4,613 library systems are repeated in the "outlets" component of the survey, which when added to the 12,266 unique outlets yields a grand total of 21,212 library systems and branches, excluding duplicates.[16]

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[13] All have an NCES code, 92,352 have a name, 92,038 have an address, 92,283 have a zip code, 92,357 have a state, 92,288 have a city, and 91,711 have a phone number.

[14] All have an NCES code and name, 16,491 have an address, 16,555 have a zip code, 16,555 have a state, 16,555 have a city, and 16,428 have a phone number.

[15] All have a unique ID code assigned by NCES, 30,255 have a name, 30,246 have an address, 30,255 have a zip code, 30,255 have a state, 30,255 have a city, and 29,760 have a phone number.

[16] All have a unique NCES ID code, 21,212 have a name, 21,186 have an address, 21,212 have a zip code, 21,212 have a state, 21,212 have a city, and 21,105 have a phone number.

The Merging Process

The merging process, as noted above, consisted of matching entities identified in the SLD data file of E-Rate applications (both at the BEN and I14 levels) with the appropriate universe file of all known eligible institutions. As shown in Exhibit III.2, the existing SLD administrative data provided NCES codes that allowed for the matching of about half of the BEN-level entities to the universe files.[17] Efforts undertaken as part of this analysis using other available information (i.e., names, addresses, and phone numbers) extended this to include an additional 11,221 BENs out of the total of 29,477 unique entities. These added matches consisted of 600 public schools, 735 public school districts, 5,303 private schools, and 4,583 public libraries systems and/or outlets. This is an overall improvement of 80 percent of the initially missing NCES codes, for an overall total of 90 percent of the BENs matched to the universe files. An additional five percent (1,322 cases) were matched but have not been used in this analysis because of uncertainty about the correctness of the linkage between the two sets of data records.

The process of matching the SLD data with the available entity universe data sets at the I14 level was considerably more complex because of the availability of only the entity name for most service sites plus any relevant information that could be acquired from the BEN-level data. To illustrate this process, consider the following examples:

- A typical **public school match** might be the "Westover school" (the name available in the SLD data) of the Evergreen District (the BEN) in New City, Florida[18] that was matched to the "Westover Elementary School" of New City, Florida in the Common Core of Data for Schools, using a match rule that employed parts of the name field and the city and state (both available for the BEN).[19]

- A typical **public district match** might be the "Evergreen ISD" of New City, Florida in the SLD data matched to the "Evergreen Public School District" of New City, Florida in the Common Core of Data-Agencies, based on an exact address match.

Similar procedures were used to match private schools and public libraries.

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[17] Additional BEN records had NCES codes that appeared to be incorrect and were, therefore, not used.

[18] All examples use fictitious names.

[19] The median number of items used to match districts and schools was 8; detailed lists of items used are provided in Appendix B.

Exhibit III.2: Results of the Data Merge Process

Applicant Type	Percent With Correct Initial NCES Codes	Percent With Missing Codes Matched Using Other Data	Total Percent Matched	Total Number
BEN Level				
Public districts	89%	55%	95%	11,922
Public schools	80%	54%	91%	5,555
Private schools	0%[2]	91%	91%	5,846
Libraries	0%	79%	79%	5,795
Total[1]	52%	80%	90%	29,118
I14 Level				
Schools	73%	52%	87%	675,798
Districts	0%	50%	50%	313
Libraries	0%	72%	72%	42,072
Missing	0%	64%	64%	11,418
Total	68%	56%	86%	729,601

[1] Excludes 359 BENs that did not appear to be districts, schools, or libraries.

[2] NCES numbers were provided by only a very few applicants.

As shown in Exhibit III.2, the matching process resulted in the proper linkage of 234,429 additional I14s: 94,567 are self-declared schools (based on the application), 158 are public districts, 30,308 are libraries, and 7,280 are missing an entity designation. Thus 56 percent of the missing cases were matched using this procedure, or a total of 86 percent of the I14s matched to the NCES universe files. An additional four percent of I14s (26,756 cases) were matched but not used for this analysis due to uncertainty about the quality of the match.

Detailed Description of the Matching Process

The merging process consisted of three distinct parts: the initial match, the selection of the best match among possible alternatives, and quality control among the best matches.

The first step connected any given BEN[20] or I14 with all reasonable observations in the appropriate public data sets: for example, a particular public school listed as an I14 in the SLD base may match on name and city with multiple records in the CCD. The next step, therefore, was to choose the "best" of all the possible matches. The final step evaluated the "quality" of the match, leading to the eventual elimination of a number of "electronically" matched records. The following sections describe each of these three steps in greater detail.

Before proceeding, however, it is important to note that although the BEN and I14 merges have some very important structural similarities in common, there are also some important differences. First, the I14 records had less identifying information available to aid in the match; however, they have the benefit of being able to use information of their "parent" BEN. Second, multiple BENs could be, by and large, trusted to not refer to the same entity; however, there was no reason that multiple I14s could not refer to the same entity, which complicated the I14 matching process. Lastly, because there were many more I14s than BENs, many processes that were feasible on the BEN level were not feasible with the I14s. The implications of these and other differences between BENs and I14s will be pointed out as they arise in the following discussion.

The Initial Match

The initial matching of the SLD and NCES data sets consisted of two steps: an electronic merge using a variety of statistical programming rules, and hand matching (where possible) of those entities that could not be linked electronically.

The Electronic Merge. The electronic merge attempted to match each BEN and I14 record to its appropriate NCES data file using a two-step process: (1) BEN or I14 matching candidates were selected for a particular match, i.e., records that were most likely to be districts were matched against the CCD-Agency file, likely schools were matched against both CCD-School file and the PSS, and likely libraries were matched against the PLS; and, (2) matches were made between the BENs or I14s and the universe data set, based on unique occurrences of identifying information. All matches generated in this step were held to the next phase, in which the best match was chosen.

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[20] Or, more specifically, application with unique identifying information.

To select likely BEN and I14 candidates for each match, the self-declared organization type from the application and the name of the entity from the application were used to categorize all of the SLD records. In the SLD data self-declared organization type consisted of four possible choices: School (not distinguishing between public and private), District, Library, or Consortium. This information provides a good deal of guidance in matching these data with the appropriate universes. However, to protect against mis-declaration,[21] this variable was supplemented with additional BEN or I14 records that seemed to be likely candidates based on their name:

- A BEN or I14 was treated as likely to be a district if the word "District" or one of its variants[22] appears in the name.
- A BEN or I14 is treated as likely to be a school if the word "School" or one of its variants appears in the name, unless the word "District" or one of its variants also appears in the name. The last caveat is to guard against the large number of entities whose name contains the phrase "School District." Such an entity is treated as a likely district, not a likely school.
- A BEN or I14 is treated as likely to be a library if the word "Library" or one of its variants appears in the name.

All BENs and I14s identified in the above process were then matched against a particular NCES data set. It should be noted, however, that although self-declared organization types were largely mutually exclusive, the addition of "likely" records based on the entity name allowed for overlapping groups. This was acceptable, as the best match among possible types would be selected in later steps.

Of the 29,477 BENs, 11,182 were self-declared as schools, and 932 additional records were identified as likely schools from the name. A total of 11,174 were self-declared as districts, and 975 additional records were identified as likely districts using the entity name. A total of 5,764 were self-declared as libraries, and 102 additional records were identified as likely libraries; a total of 2,557 records were in more than one category.

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[21] Evidence of mis-declaration is the fact that several BENs changed organization type across applications.
[22] Variants are listed in Appendix B.

Of the 729,601 I14s, 656,659 were self-declared as schools, and 17,163 additional records were identified as likely schools from the name. A total of 303 records (all in Year 3) were self-declared as districts, and an additional 674,462 records were identified as likely districts (using our rule that having at least one applicant school made the district an applicant as well). Finally, a total of 35,480 records were self-declared as libraries, and 252,614 additional records were identified as likely libraries; a total of 674,781 records were in more than one category.

For a match to be made between the SLD and NCES data sets required the similarity of key pieces of identifying information, e.g., state, city, and name; state, city, and address; zip code, city, and address. (A complete list of all sets of identifying information that were used is provided in Appendix B.) Next, records were searched to identify those that were unique in both data sets (SLD[23] and NCES), based on this information. To see how this works, suppose, for instance, that the "Modern" Library is the only public library within the zip code 00001. Therefore, if a likely library in the SLD data had that zip code, it is very likely a match, even if very little else matched. This implies that even short strings of identifying information can be matched (zip alone, for example), if such a match occurs uniquely. However, cases with very few matched data items were subsequently dropped from the analysis because of concerns about the quality of the file linkage.

There were seven pieces of identifying information (with seven sub-types) used for the matching process for a total of 14 characteristics: NCES codes, name of entity (and related sub-types based on parts of the name), street address (and related sub-types based on key word strings), city, state, zip code, and phone number (and related sub-types, e.g., the area code or primary exchange). Each of these is described below:

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[23] For BENs, unique was defined across all BENs; for I14s, unique was defined across that application only.

- **NCES Codes** were provided for 16,083 public school and district BENs, and 571,813 public school and district 114s. Each public school and public district in the universe of the CCD was provided with a unique code: applicants were asked to report this code where appropriate. Matches generated through these codes are counted as the initial percent matched in Exhibit III.2. NCES codes only apply to public schools and districts; no codes were found to identify private schools or libraries.

- The **Name of Entity** is a character string designating the identity of the organization. Matching on name is highly sensitive to random changes: for example, matching on name alone would not match "Johnson City School" with "City of Johnson School," "Johnson Cty School" or "Johnson City Sch." Therefore, two related variables were created:

  1. **Translated Name** is an equivalent string to name, with some modifications: case is mapped to lowercase only, punctuation is dropped, shortenings of common terms ("Sch", "Scho", "Schl") are mapped to the same string ("School"), and words that are commonly abbreviated are shortened ("Saint" to "St").
  2. **Big Words in Name** were identified. The first, second, and third largest words in the name are pulled out as separate variables. Common terms were dropped from this list ("School", "District", "Academy", etc.) as to encourage a match along unique names. For example, the big words in "City of Johnson School" would be "johnson" and "city", in that order.

- The **Street Address of Entity** is a character string that, like Name, is also highly sensitive to random changes. Consequently, two related variables were created for matching purposes:

  1. **P.O. Box** was identified where possible: to avoid attempting to match street addresses with PO Boxes, the word "POBOX" and its variants were scanned for and removed from the **translated address** (see below). The numbers following an occurrence of the term "POBOX" are identified as a separate variable.
  2. **Translated Address** is defined similarly to Translated Name: all cases were mapped to lowercase, punctuation is dropped, commonly abbreviated words were mapped to the abbreviation (Street to St, Avenue and Av to Ave), and PO Boxes were removed. For example, the Street Address of "1100 William Street, P/O Box 37" would have a **translated address** value of "1100 william st" and a **P. O. Box** value of "37".

- The **City**, **State**, and **Zip Code** were not manipulated in any way.
- The **Phone Number** was divided into **Area Code**, **First Three Digits**, and **Last Three Digits**. This was to aid in matches that might occur without exact matches of phone number: for example, if two different phone numbers within the same building were given, one for the SLD data and one for the Universe set, they might match on Area Code and First Three Digits but not on the whole phone number.

The electronic merge generated matches for 26,492 of 29,477 BENs, with an average of 1.14 different matches per matched BEN. Eleven percent of the matched BEN records were matched with multiple entities in the NCES data sets. In addition, the electronic merge generated matches for 627,697 out of a total of 729,601 I14s, with an average of 1.23 different matches per matched I14 record. Seventeen percent of matched I14s were matched with more than one entity in the NCES data sets.

The Merge By Hand. BENs that were likely schools or districts were matched by hand with the appropriate NCES data set, generating another list of likely matches to be fed into the next step in this process. Also, BENs that were not matched in the electronic merge were scrutinized more closely and matches were attempted again by hand. A total of 12,533 BENs were matched in some way by hand.

Special Cases for Item 14s. Item 14s had less identifying information than BENs; namely, I14s had only names, some had NCES codes, and additional information could be acquired from the BEN level. BENs that were receiving funds themselves were required to list themselves as I14s on their applications. It was useful, therefore, to identify some I14s as matches to their parent BENs; 23,905 I14s were matched in this way to their parent BEN.

An I14 that appeared on one application could also refer to the same entity as one that appeared on another application by the same BEN. Therefore, it was also useful to match I14s to each other within BEN; 2,539 I14 matches were generated in this manner.

Choosing the Best Match

For those 3,353 BENs and 121,833 I14s that had multiple initial matches, a method needed to be developed to select between the possible linkages. A visual scan of a sample of multiple matches on the BEN level suggested the following method:

- All differing initial matches for a given BEN or I14 were ranked according to the number of pieces of identifying information that matched, and the highest ranked would be taken. (By-hand matches were weighted upward in this process under the assumption that they were more reliable.)
- In the event of a tie, the top-ranked initial matches were ranked according to the number of independent electronic matches and the highest selected (for example, unique in the zip code match and unique in the zip code-city match counted as two).

This method weighted all pieces of identifying information equally. This might suggest that alternative ranking structures might produce other results. However, this sample of initial match records indicated that typically, one match was clearly better than competing alternatives; this suggests that the best match choice is unlikely to be highly sensitive to reasonable alternative choice algorithms.

This step then yielded a grand total of 27,565 BENs and 654,141 I14s that were matched to one and only one entity in the universe sets. This represented 94 percent of all 29,477 BENs and 90 percent of all 729,601 I14s.

Quality Control

Visual inspection of the linked records revealed that when very few pieces of information were in agreement, the matched cases appeared somewhat inaccurate. To ensure that only high quality matches were used in the analysis, samples of matched records were visually inspected, leading to a set of decision rules about which matches should be retained for later use (see Exhibit III.3 below).

Exhibit III.3: E-Rate Applicant Type, Acceptable Level of Matching Information, and the Number of Cases Eliminated

Type Of Applicant	Number of Matching Pieces of Information Required to Be Acceptable	Number of Matches Eliminated By the Rule
BEN LEVEL		
Public districts	5	499
Public schools	5	374
Private schools	5	192
Libraries	6	257
I14 LEVEL (all)	2	26,756

Exhibit III.2 (presented at the beginning of this chapter), showing the success of the overall matching process, incorporates the results of all three steps, including the final quality control decisions. Only acceptable matches were listed in the tables and used in the analyses presented in Chapter IV.

Recommended Future Steps

With some relatively minor changes, the existing E-Rate application database maintained by the SLD can be turned into a rich information system providing a wealth of ongoing data for use by policymakers, program administrators, researchers, and anyone interested in the E-Rate. To do this, however, requires addressing two broad issues that emerged during the matching process described in this chapter.

Improving The Utility of SLD Data For Program Evaluation and Monitoring

The primary purpose of the data gathered by the SLD as part of the E-Rate application process is intended to minimize fraud and abuse, and to ensure that the program runs effectively and serves its intended clients well. This suggests that the forms should not be burdensome, nor require information that is unnecessary for the application process. While some information may be unnecessary for the application process *per se*, collection of such data could greatly enhance the value of the E-Rate application for ongoing program management.

First and foremost it is recommended that E-Rate applicants be required to provide codes that explicitly link the applicant with a particular entity in the NCES universe data sets. Such information could also yield efficiency benefits for those applicants submitting electronic forms since an applicant could submit an NCES code, which would then automatically link to the CCD data set and fill out most of the form for them. Applicants would only have to make any updates to the archived information if necessary, providing a concurrent benefit of updating the CCD master file (this process would also serve as an electronic data check for the SLD). Requesting NCES codes, PSS codes, and PLS codes, with links to the Department of Education web site for easy verification, would greatly enhance the ease of the research process and the use of the SLD data for management purposes.

In addition, organizations currently declare their own "institution type" as a school, district, library, or consortia. It would be very useful for research purposes to have finer distinctions: between public and private schools, for example, or library outlets or systems. This would aid tremendously in the matching and analysis process.

Improving The Availability and Coverage of "Universe" Data Sets

There are currently no suitable universes for organizations of private schools, such as systems of related private schools and archdioceses of Catholic schools. Similarly, some "special" public schools and districts—such as vocational-technical schools, special schools for the deaf and blind, charter schools, and intermediate administrative districts (e.g., BOCES)—were also excluded from the existing universe data sets. In addition, the NCES "universe" file for private schools missed a large number of schools applying for the E-Rate. One solution might be for SLD and NCES to coordinate their information to expand the universe files and the collection of basic information on the characteristics of such entities as part of future NCES surveys.

Chapter IV: Study Findings

This chapter presents the results of the analysis of the E-Rate administrative data, with a focus on three key policy questions: Who applies for, and receives, E-Rate discounts? For what types of services are E-Rate discounts requested? And, how do these patterns vary by geographic location (urban/rural location and state), size, poverty concentration, and minority concentration? Separate answers to these questions are provided in this chapter for public school districts, public schools, private schools, and libraries. (Detailed data tables are provided in Appendix A and are referenced where appropriate in the text.)

Public School Districts

This discussion of study findings begins with public school districts that are, as shown in Exhibit IV.1, the largest recipient of E-Rate discounts. Indeed, more than 80 percent of total E-Rate funds, almost $1.4 billion out of a total of just over $1.7 billion, went to public school districts in Year 1. The next largest category of E-Rate participants includes state consortia and federally administered schools[24] that received about $95 million, or close to six percent of total funding commitments. In Year 2, the total E-Rate funding cap was increased and commitments to all types of eligible entities rose, but the share to public school districts remained high at about 78 percent of total E-Rate discounts.

Exhibit IV.2 provides information on how the E-Rate funds to public school districts were distributed by key district characteristics. These findings are discussed below; detailed data tables for school districts can be found in Appendix A, Tables A.1 through A.30.

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[24] This includes schools administered by the Bureau of Indian Affairs and the U.S. Department of Defense.

Exhibit IV.1: E-Rate Funding By Year And Type of Entity (January 4, 2000)

Entity Type	Total Funding Commitments $(000)		Total Number of Applications		Average Commitment per Application	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Public School Districts	$1,396,041 (80.9%)	$1,516,865 (77.6%)	17,044	17,049	$81,908	$88,971
States and Federally Administered Schools*	95,289 (5.5%)	110,140 (5.6%)	57	86	1,671,732	1,280,697
Public Schools	76,803 (4.5%)	124,179 (6.3%)	3,863	3,898	19,882	31,857
Libraries	70,564 (4.1%)	74,765 (3.8%)	5,010	5,074	14,085	14,735
Private Schools	44,227 (2.6%)	66,869 (3.4%)	4,048	4,265	10,926	15,679
Consortia	41,389(2.4%)	60,481 (3.1%)	244	257	169,628	235,333
Private "Districts"	664 (0.0%)	1,468 (0.2%)	35	36	18,982	40.773
Total	$1,724,977	$1,954,766	30,301	30,665	$56,928	$63,746

Notes: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.

Data Sources: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education. The data differ somewhat from that available on the SLD public web site.

* This includes schools administered by the Bureau of Indian Affairs and the U.S. Department of Defense.

Exhibit IV.2: E-Rate Application Rates and Funding By Year And Key Characteristics: Public School Districts

Characteristic	Application Rates		Average E-Rate Discount Per Student	
	Year 1	Year 2	Year 1	Year 2
Urban Location				
City	72%	75%	$51	$61
Urban Fringe	75%	80%	$23	$28
Town	80%	84%	$32	$35
Rural	76%	83%	$39	$38
Total Enrollment				
0-2999	71%	77%	$40	$42
3000-7999	88%	91%	$29	$30
8000-24999	93%	91%	$34	$36
25000 and over	96%	97%	$44	$56
Percent Minority				
Less than 5%	80%	85%	$21	$23
5 - <20%	77%	83%	$17	$20
20 - <50%	76%	82%	$26	$27
50% or more	74%	82%	$67	$80
Percent Poverty				
Less than 1%	42%	43%	$81	$106
1 - <20%	83%	85%	$11	$13
20 - <35%	83%	89%	$20	$23
35 - <50%	85%	89%	$37	$35
50 - <75%	81%	87%	$73	$77
75% or more	71%	79%	$109	$108
NATIONAL AVERAGES	73%	78%	$38	$43

Notes: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.

Data Sources: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

Differences by Urban Location

For analysis purposes, public school districts were divided into four categories that defined their urban location:[25]

- ***City***—a central city of a Metropolitan Statistical Area (MSA) or a Consolidated Metropolitan Statistical Area (CMSA).
- ***Urban Fringe***—any incorporated place, Census designated place, or territory within a CMSA or MSA and defined as urban by the Census Bureau.
- ***Town***—an incorporated place or Census designated place located outside a CMSA or MSA.
- ***Rural***—any remaining areas designated by the Census Bureau as rural.

Not surprisingly, although city districts comprise only eight percent of all public school districts they enroll 33 percent of all public school students (see Tables A.1 and 2). In contrast, rural districts, comprising nearly half of all public school districts, enroll only about 14 percent of all public school students.

As shown in Exhibit IV.2, regardless of year, the probability of applying[26] for E-Rate has only minimal variation by urban location, with city districts having a somewhat lower application rate than rural districts. Once a district applies, however, they are very likely to be funded, as more than 95 percent of applicants receive funding commitments, regardless of district location (see Tables A.1 and 2).

In Year 1, about half of E-Rate funding to districts (over $620 million) went to city districts and the smallest amount (about $180 million) went to rural districts. The remainder (about $500 million) went to districts located in either the urban fringe (i.e., suburban school districts) or small towns. City districts also receive about twice as much per student as urban fringe districts ($51 versus $23 per student), with town and rural districts receiving $32 and $39 per student respectively. This pattern is not too surprising given that city and rural districts are likely to have higher poverty rates than urban fringe districts and, as discussed in Chapter II, poverty concentration is an important determinant of both the level of discount received and the "priority" of funding commitments.

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[25] Based on definitions used in the Common Core of Data, National Center for Education Statistics, U.S. Department of Education (NCES, 2000a). The E-Rate funding formula is based on a definition of rural approximately equal to the combination of town and rural as used here.

[26] Districts are counted as an E-Rate applicant if either they, or any public school within the district, applies either directly (on their own) or indirectly (as part of a consortium).

Application rates increased for all categories of public school districts in Year 2, as did the total funding by category with the exception of rural districts for which funding levels remained essentially unchanged. City districts received more than $700 million, or about half of the total Year 2 funding. The average funding per district, and average funding per student, also increased for all categories, again with the exception of rural districts that showed a slight decrease in total and average funding (i.e., more rural districts applied but those that entered in Year 2 had smaller funding requirements). Total funding increased by 15 percent for city districts, 22 percent for urban fringe districts, and seven percent for town districts.

In examining these types of year-to-year differences, both here and in other sections of this chapter, it is important to keep in mind that among other things there were some important changes in how SLD made its funding decisions that can affect the observed distributions. In particular, in Year 1, funding requests for internal connections were limited to applicants with more than 70 percent of students eligible for free or reduced-price meals, in Year 2 the cut off for such requests was relaxed to 20 percent, and in Year 3 the cut-off is expected to be tightened again to include only those applicants that have more than 80 percent of their students eligible for free or reduced-price meals (this increased restriction is due to the enormous increase in E-Rate funding requests in Year 3 as shown in Chapter II). To the extent that, for example, one category of districts (e.g., large urban districts) are more likely to request discounts for internal connections, there will be differences across the two years due, in large part, to differences in the SLD's decisions about what types of services qualify for funding.

Differences by Size

Districts were also categorized by enrollment size (see Tables A.3 and 4[27]). As shown in Exhibit IV.2 the probability of applying for E-Rate generally increases with size, i.e., the fraction of districts applying is lowest for the smallest districts (less than 3,000 students), at about 71 percent, and highest for the largest districts (25,000 students or more), at about 96 percent. These percentages generally increased in Year 2, with the smallest districts having the greatest increase in application rates, about six percentage points (this finding is consistent with that previously described for urban location).

In both years, the largest districts received the greatest share of total E-Rate funding commitments for public school districts ($554 million out of $1.3 billion in Year 1, and $695 million out of $1.5 billion in Year 2). These large districts also received the highest average level of E-Rate funding at $44 per student in Year 1, increasing to about $56 per student in Year 2. By comparison, the second smallest category of districts (3,000 – 7,999 students) received the lowest per student allocation, about $29 per student in each year. As discussed later, this pattern holds even after controlling for poverty. Hence, in all likelihood, this pattern is due, at least in part, to the higher technical, human, and financial capacity at the larger public school districts.

Interestingly, the smallest category of public school districts (those under 3,000 students) had the second highest funding per student, around $40 in Year 1 and $42 in Year 2. Districts in the remaining size category (8,000 – 24,000 students) received around $35 per student in each of the two funding years. The relatively high average funding levels among the smallest school districts probably reflects the spreading of expenditures on high-cost technology infrastructure across a small number of students.

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[27] District size categories are those defined by NCES (1998).

Differences by Percent Minority

Districts were also categorized by the fraction of minority (non-white) students[28] in the district (see Tables A.5 and A.6). As shown in Exhibit IV.2, the probability of applying for E-Rate discounts decreases slightly as the percentage of minority students in the district increases in Year 1, but the differences by minority student concentration are almost negligible in Year 2. In Year 1, the application rates vary from 74 percent in the highest minority districts (50 percent or more) to 80 percent in the lowest minority districts (less than 5 percent). In Year 2, these percentages increase for all groups, narrowing the gap between high- and low-minority districts to only three percentage points.

For those districts that applied, the total level of E-Rate discounts and the average award per district generally increase as the percentage of minority students increases (see Tables A.5, A.6). In Year 1, the total amount of E-Rate commitments ranged from $120 million to districts with less than five percent minority students, to more than $800 million to districts with 50 percent or more minority students. Awards to all categories of districts increased in Year 2 of the program, especially to districts with the highest concentration of minority students. In Year 1, the average award to districts ranged from $32,000 for low-minority districts to $711,000 for high-minority districts, and these levels generally increased in Year 2.

As shown in Exhibit IV.2, average E-Rate funds per student ranged from $17-$21 in low-minority districts (less than 20 percent minority), to almost $67 per student in high-minority districts in Year 1. These figures also increased for all groups in Year 2, with the dollars per student in the highest minority districts growing by almost 20 percent.

Although the E-Rate is not explicitly targeted to high-minority districts, the concentration of minority students in high-poverty and urban areas—both important factors in the E-Rate funding process—is the probable determinant of this observed relationship.

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[28] District poverty categories are those used by Parrish, T. & C.S. Hikido (1998). ***Inequalities in Public School District Revenues***. Washington, D.C.: NCES.

Differences by Poverty

Finally, as shown in Exhibit IV.2, districts were classified by the concentration of low-income children using the E-Rate poverty breaks discussed in Chapter II (see Tables A.7 and A.8). Along with rural location, this is the most important factor used by the SLD to determine the level of E-Rate discount, as well as the priority for granting funding requests. For example, in Year 1 funding for internal connections was only approved for applicants with 70 percent or more low-income students.

High-poverty public school districts—those with 50 percent or more of their enrolled students eligible for subsidized school meals—account for about 15 percent of all districts in the country, but serve about 26 percent of all public school students. In both funding years, these high-poverty districts received about 60 percent of total E-Rate discounts provided to public school districts—$655 million in Year 1 and $686 million in Year 2. It is clear, therefore, that the E-Rate was targeted to the poorest communities and that it has achieved its legislative intent.

As shown in Exhibit IV.2, with the exception of the very wealthiest districts (i.e., less than 1 percent of students eligible for free and reduced-price meals) that only receive a relatively small amount of the overall E-Rate funding (1-2 percent of the total provided to districts), the average E-Rate dollars per student (and per district as shown in Appendix A) increase with rising levels of poverty concentration. For example, in Year 1 districts in the 1-20 percent poverty category receive an average of $35,000 per district and about $11 per student, in contrast to the highest poverty districts (75 percent or more poor students) that receive an average of $656,000 per district and $109 per student. The high-poverty districts receive more largely because they have higher discount rates. In addition, however, these districts may be requesting more funds because they started with far lower levels of technology access.

The high spending in the very low-poverty districts (< 1 percent free lunch) may, at least in part, be an artifact of how school poverty is measured. In this study we calculated poverty based on the number of free and reduce-price eligible children as reported in the CCD data. We used this information because these data are available consistently for both non-applicants and applicants, and are the primary means of determining the E-Rate discount. However, schools did have other options when applying for E-Rate. Therefore, some schools, and in particular high schools (with traditionally low rates of participation in free lunch programs), may have chosen an alternative measure of poverty that they believed better reflected the concentration of poverty in their school. And, these schools may constitute a disproportionate share of the schools that were categorized as low-poverty schools.

Application rates also show a complicated picture (see Exhibit IV.2). Districts in the lowest poverty category (under 1 percent) have the lowest rate of applying for E-Rate, about 42 percent, which is not surprising given the lower level of discount that is provided to participants in this poverty category. In contrast, districts with up to 75 percent of their students eligible for free and reduced-price meals have application rates that range from 81 to 89 percent across the two funding years.

The anomaly in this relationship is the highest-poverty districts (over 75 percent poor students) for which the application drops to 71 percent in Year 1 and to 79 percent in Year 2. This drop-off in application rates may reflect a lack of capacity in these poorest communities to handle the administrative and technical requirements of applying for E-Rate, which is necessary to take full advantage of the subsidized equipment and services. The significant increase from Year 1 to Year 2 does, however, provide some indication that any barriers of this sort are being overcome as the program matures.

Differences by State

Public school districts in a handful of states have benefited the most from the E-Rate; in fact, districts in 12 states—California, Texas, Illinois, Michigan, New Jersey, Florida, Georgia, Kentucky, New York, Alabama, Ohio, and Puerto Rico—received about two-thirds of the total E-Rate funds provided to districts in the first two years of the program combined. These same states have only about half of the total public school student population.

These state-to-state differences can be explained by differences in the extent to which public school districts apply for E-Rate funds, the rate at which they are approved, and the funding level per student each state receives. These results, shown in Tables A.9 and A.10 and summarized briefly in Exhibit IV.3, show that there are rather large differences both within and across funding years, as well as consistent "winners" and "losers."

Overall application rates rose from 73 percent of all public school districts in Year 1, to 78 percent in Year 2. In Year 1, four states had district application rates under 50 percent (Arizona, Maine, Montana, and New Hampshire), and another 11 had rates under 70 percent (California, Idaho, Illinois, Kentucky, North Carolina, North Dakota, Nebraska, New Jersey, South Dakota, Vermont, and Wyoming). At the other end of the distribution, 18 states had more than 90 percent of public districts applying for E-Rate (including Washington, D.C., Hawaii, and Puerto Rico, which are single "state" districts, and Rhode Island and Georgia at 100 percent). In Year 2, the overall distribution of applicants generally moved up, with fewer states having application rates under 50 percent (Montana and New Hampshire), fewer states under 70 percent (Arizona, California, Maine, North Dakota, Nebraska, New Jersey, and Vermont), and more states having rates over 90 percent (23 compared to 18 in Year 1). Clearly, as the program matures and overcomes early start-up problems, the E-Rate's district-level coverage is expanding in most states.

The overall growth in application rates has been moderate (about 5 percentage points). In addition, however, there were some marked differences in year-to-year changes for school districts by state. Application rates for public school districts in Wyoming, for example, increased by 31 percentage points, and by 29 percentage points in Illinois, from Year 1 to Year 2 (see Tables A.9 and A.10). Seven other states increased their application rates for public school districts by 10-20 percentage points. In the opposite direction, four states had decreased district application rates of more than five percentage points between the two years, with New Mexico experiencing the largest drop of 12 points. These year-to-year changes should be judged with caution, however, because two years is insufficient to understand the underlying behavioral patterns, and especially in small states (i.e., those with fewer numbers of districts) where a small change in the number of districts applying can produce relatively large changes in the overall state application rate (as was the case in New Mexico).

Funding rates for school districts (i.e., the percent of those applying that were approved) decreased slightly between Year 1 and Year 2, reflecting the SLD's more stringent enforcement of the application procedures in the second year of operation (see Tables A.9 and A.10). In both years, almost half the states had 100 percent funding rates. However, Washington and Nevada, which were at 100 percent in Year 1, fell to 83 and 97 percent in Year 2, respectively, experiencing the largest drops by state. New Mexico and Arizona also had drops of more than five percentage points. The largest gains were for Wyoming and Illinois, both around six percentage points. As with year-to-year changes in application rates, these changes should be judged with caution, especially in states like Arizona, New Mexico, and Wyoming, where a change of 1-2 rejected applications can lead to relatively large percentage changes in funding rates.

Exhibit IV.3:   E-Rate Application Rates and Funding By Year And State: Public School Districts

	Application Rate		Average Discount Per Student	
	Year 1	Year 2	Year 1	Year 2
Highest States	District of Columbia (100) Georgia (100) Hawaii (100) Puerto Rico (100) Rhode Island (100) Tennessee (99) Missouri (98) Washington (98) West Virginia (98) Maryland (96) Arkansas (95) Mississippi (95) Alaska (93) Iowa (93) Florida (92)	District of Columbia (100) Hawaii (100) Puerto Rico (100) Rhode Island (100) Georgia (99) Tennessee (99) Washington (99) Missouri (98) West Virginia (98) Mississippi (96) New York (96) Arkansas (95) Florida (95) Alaska (93) Maryland (92)	Alaska ($104) Puerto Rico ($75) Alabama ($70) Kentucky ($70) New Jersey ($70) Oklahoma ($63) Arizona ($58) New Mexico ($58) Connecticut ($53) Rhode Island ($53) Wisconsin ($52) California ($51) District of Columbia ($49) Louisiana ($49) Mississippi ($45)	New Mexico ($104) Illinois ($95) Alaska ($93) Puerto Rico ($93) Kentucky ($82) Connecticut ($79) Arizona ($75) California ($58) Oklahoma ($55) Michigan ($53) Tennessee ($53) Georgia ($51) Mississippi ($50) Louisiana ($48)
Lowest States	Maine (37) Arizona (42) Montana (42) New Hampshire (46) Wyoming (51) Illinois (54) Nebraska (57) North Dakota (58) New Jersey (61) California (64) Idaho (65) Vermont (65) South Dakota (66) North Carolina (66) Kentucky (68)	New Hampshire (40) Montana (48) Arizona (55) Maine (55) Nebraska (56) Vermont (57) North Dakota (61) New Jersey (61) California (66) Idaho (71) North Carolina (71) South Dakota (72) Massachusetts (74) New Mexico (75) Connecticut (76)	Delaware ($7) Utah ($8) Maryland ($13) New Hampshire ($14) Iowa ($17) Oregon ($17) Nebraska ($18) Nevada ($18) Florida ($20) Indiana ($21) Idaho ($22) Maine ($22) North Dakota ($22) Virginia ($22)	Utah ($5) Delaware ($6) Nevada ($6) New Hampshire ($11) Colorado ($16) Iowa ($19) Oregon ($19) North Dakota ($20) West Virginia ($20) Arkansas ($21) Maryland ($21) South Dakota ($21) Nebraska ($22) Massachusetts ($23) Missouri ($23)
National Average	73%	78%	$38	$43

Notes: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.
Data Sources: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

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Returning to Exhibit IV.3, average funding per student, among districts that were funded directly, increased from $38 in Year 1 to $43 in Year 2.[29] In Year 1, eight states were under $20, dropping to seven states in Year 2. The Year 1 range was from a low of $7 in Delaware and $8 in Utah, to a high of $104 in Alaska and $75 in Puerto Rico; in Year 2, New Mexico had the highest per student funding for school districts at $104 followed by Illinois at $95 and Alaska at $93 while Puerto Rico increased to $93, up from $75 in the previous year. New Mexico also experienced the largest increase between Year 1 and Year 2 of $42 per student. Illinois, Connecticut, and Tennessee also moved up by an average of more than $20 per student. Alabama had the largest decrease (at $32), while New Jersey, Wisconsin, and Washington, D.C. also dropped by more than $20 each.

Such state-to-state variations, and variations across years even for the same state, are, as noted above, due to a host of complex factors, some of which are obvious, some of which are a result of programmatic decisions that must be kept confidential (i.e., information on rejected funding requests is not made public by the SLD), and others that simply cannot be explained using the currently available data (the ISET surveys described in Chapter I will help shed some light on these factors). A few examples may, however, be helpful.

Poverty is the major determinant of the E-Rate discount rates. Hence, it is not surprising that at the state level, district funding appears to be strongly related to child poverty of the state. For instance, in Year 2, none of the 10 states with E-Rate district spending under $20 per student were south of the line going between the southern borders of Virginia and Utah (including California). Almost all these more southern states had child-poverty rates at least 20 percent over the state median (Annie E. Casey Foundation, 1999).[30] In addition, six of the eleven states with E-Rate spending of more than $50 per student were high-poverty states, and three of the remaining ones had above median poverty.

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[29] The variance also increased from 387 to 590.

[30] The exceptions were Georgia and North Carolina. The poverty estimates are based on a 5-year average of 1994 through 1998 data from the March Current Population Survey.

The E-Rate discounts are determined at the school level and not at the state level. Therefore, two states with equal average levels of poverty may have very different funding levels because of differences in the distribution of poor students. For example, low funding in Delaware was caused in part by school desegregation orders which significantly reduced the concentration of poor students in Delaware schools.

Rural location is the other determinant of E-Rate discounts. Alaska[31] and Connecticut, which have relatively high fractions of students in rural areas but little child poverty, had among the highest funding levels per student in Years 1 and 2 and Wisconsin, also rural with low child poverty, had high E-Rate funding per student in Year 1. Such rural areas may also have high funding because of the high cost of providing telecommunications services in sparsely populated areas.

The observed state-to-state variations also reflect differences in the local market cost of E-Rate-eligible equipment and services, and the extent to which institutions in different states obtain funding for different types of eligible services, especially the high-cost internal connections. Similarly, states with a well-developed technology infrastructure may be less able to obtain large amounts of E-Rate funding than those states where schools and libraries are at an earlier stage of technology development. Delaware, with one of the lowest levels of funding in both years, was at the forefront of connecting schools and libraries to the "information highway." As a result, there is a lower need to build infrastructure, and this has tended to greatly decrease their need for additional telecommunications funding through the E-Rate.

Changes over time by state also have a variety of possible explanations. One relatively sparsely populated state experienced one of the largest year-to-year changes in average funding because of the approval of a single large school district in Year 2 that received no E-Rate funding in Year 1. Another state with a large decrease from Year 1 to Year 2 had a large district submit its second-year application outside the SLD-approved "window" for the receipt of applications.[32]

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[31] Alaska may have also benefited from the services of a particularly energetic librarian, Della Matthis, who has, according to John Monahan, former superintendent of the Iditarod School District in McGrath, Alaska, "maintained a list serve, stayed in contact with the schools," and more generally "championed and watch-dogged" the E-Rate program in Alaska.

Combining District Poverty Concentration and Urban Location

As discussed in Chapter II, the E-Rate funding formula is based on a combination of the concentration of poor students and rural location in the participating school district. Entities with the highest concentration of students eligible for free and reduced-price lunches receive a 90 percent discount (subsidy) in comparison to only a 20-25 percent discount for entities with the lowest concentration of poor students. But, those applicants with poverty rates of under 50 percent that are also located in rural areas receive higher discounts (typically about 10 percentage points) than similarly poor entities located in urban areas (there are no urban-rural differences once the poverty rate exceeds 50 percent). The question then arises, are there differences in application rates and funding levels when poverty and location are examined together?

As shown in Tables A.11 and A.12, the pattern of application and funding rates is mixed, with the highest levels shifting between urban and rural areas for different levels of poverty concentration, and the patterns differing somewhat across the two funding years. However, it should be kept in mind that the lowest poverty level (<1 percent on free lunch) covers less than 2 percent of students. In addition, the E-Rate funding formula gives no preference for rural schools with more than 50 percent of their students on free and reduced price lunch, in comparison to urban schools with a similar fraction of free lunch students. For the remaining three poverty categories (1-<20 percent, 20-<35 percent, and 35-<50 percent) we find unambiguous evidence of higher spending per student in the rural and town districts (which roughly approximate the SLD definition of rural) in comparison to the city and urban fringe districts with similar poverty levels. The application rate differences by rural location are less clear, but always quite small for these categories. To summarize, it appears that the E-Rate funding formula is benefiting the students in rural non-poor areas relative to urban non-poor areas, as planned.

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[32] After decisions were reached on all Year 2 applications submitted during the allowable time period, there were "left-over" funds that the SLD is now deciding to use for approvals of previously submitted late applications.

Combining District Size and Poverty Concentration

As discussed earlier, larger districts have higher rates of applying for E-Rate, and this pattern holds true even when controlling for differences in the concentration of poor students (see Tables A.13 and 14). For example, among low-poverty districts (those with under 1 percent poor students) the Year 1 application rates vary from 41 percent in small districts (under 3,000 students) to 100 percent among districts in the 8,000-24,000 student category.[33] Similarly, among high-poverty districts (75 percent or more poor students), the Year 1 application rates range from 67 percent in the smallest category of districts to 100 percent among the largest districts (25,000 or more students). This pattern probably reflects the previously noted higher level of human and technological capacity at the larger school districts.

Even though they have generally lower application rates, the smallest districts (under 3,000 students) have the highest average levels of E-Rate funding regardless of the concentration of poor students. For example, among low-poverty districts (less than 1 percent poor students), the Year 1 average funding is $104 per student in small districts (under 3,000 students) compared to $72 for low-poverty districts with 8,000 to 24,999 students. Among the high-poverty districts (75 percent or more poor students), the averages are $137 per student in the smallest districts, and $110 in districts with 25,000 or more students. Again, this relatively high average funding level in the smallest districts is due to the high cost of E-Rate-eligible equipment and services that are then spread over few students in the district.

Combining District Size and Urban Location

As shown in Tables A.15 and A.16, rural districts generally apply for E-Rate funding in greater proportions than do urban districts in the same enrollment size category. This may reflect the higher discount rate for rural participants compared to urban participants (see Chapter II).

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[33] This is the largest size category for the least poor districts.

In terms of average per student funding, however, city school districts received the highest level of E-Rate commitments regardless of size. For example, in Year 1 among the largest school districts (25,000 or more students) city districts received an average of $52 per student compared to $24 per student in towns. The differences at the other size categories are similar, i.e., $59 vs. $34 for 0-2,299 students, $50 vs. $30 for 3,000-7,999 students, and $49 vs. $31 for 8,000-24,999 students.

Controlling for urban location, application rates increase with size everywhere, except in rural areas, where the very largest school districts have fairly low application rates. In contrast, funding per student, controlling for urban location, shows no clear pattern by district size, except that it clearly decreases with size in rural districts.

Combining District Poverty and Minority Concentration

As noted above, there is no strong overall relationship between district minority concentration and the rate of applying for E-Rate, and this same general pattern is found when poverty concentration is broken down by the concentration of minority students in the district (Tables A.17 and A.18). There is, however, a slight tendency for application rates to be somewhat higher among higher poverty high-minority districts. But, because of skewed samples in particular cells this relationship should be treated with caution.

For the most part, funding commitments per student increase with rising concentrations of poor students, even after controlling for the concentration of minority students. For example, among low-minority districts (i.e., those with under 5 percent minority students) the average E-Rate funding is $25 per student in Year 1 for the least poor districts (under 1 percent poor students) and more than $86 per student in the poorest districts (over 75 percent low-income students).

The pattern, however, is not smooth and there are several anomalies shown in Tables A.17 and A.18 that require further study. For example, among the highest minority districts (over 50 percent minority students), those with the lowest concentration of poor students received an average of $137 per student, while those with the highest concentration of poor students received an average of $109 per student. This group of "high minority/low poverty" districts is primarily concentrated in California and Michigan, and consists of charter schools that are designated as their own "district," non-unified school districts, and special emphasis districts (e.g., disabled children, vocational education).

Funding by Service Type and Urban Location

Exhibit IV.4 (and Tables A.19 and A.20) provide information on the fraction of districts applying, and the average funding per student, among districts receiving a particular type of E-Rate-eligible service, by key district characteristics and funding year. The E-Rate service categories used in these tables are as follows:

- ***Telecommunications (including "dedicated" services)***: telephone service (local and long-distance service, toll charges, call blocking, measured and message rate service, and cellular and paging service), satellite and cable TV, telephone equipment (switches, CENTREX, frame relays, permanent virtual circuits), special data lines (Digital Subscriber Lines, T-1, Digital Signal, ISDN, and SMDS), homework hotline and distance learning services. "Dedicated" refers to telecommunication services that are provided to a single service site, rather than being shared among sites.

- ***Internal Connections***: backbone cabling and other internal wiring, Local Area Network (LAN), terminal network servers and/or monitors, PBX equipment, some eligible software, and a variety of adjunct equipment and services related to internal connections.

- ***Internet Access***: Internet and e-mail access, satellite access to the Internet including leased satellite dishes, and browser and firewall services.

As shown in Exhibit IV.4, telecommunication services have the highest application rates for public school districts, at 66 percent in Year 1 and 76 percent in Year 2. Application rates for internal connections are next in descending order at 57 percent in Year 1 followed by Internet access at 52 percent. In Year 2 the application rate for internal connections falls to 45 percent, while that for Internet access rises to 64 percent. Some of this variation across years may be due to the changing priorities established by the SLD for internal connections.

Committed funding for internal connections is, on average, clearly highest at $42 per student in Year 1 rising to $48 per student in Year 2. The next highest category is telecommunications services, at $15 and $13 per student in Years 1 and 2 respectively, followed by Internet access that averages $4 per student in both funding years.

Examining these data by the urban location of the public school districts shows that town and rural districts generally have slightly higher application rates for all types of E-Rate services. Average funding levels are, however, generally highest in city and rural districts.

Funding by Service Type and Size

As also shown in Exhibit IV.4 (and Tables A.21 and A.22), the fraction of districts applying for funds generally **increases** with district size across all types of services. At the same time, the average funding level per student generally **decreases** with district size, as the largely infrastructure investments are spread over more students.

Funding by Service Type and Minority

There are small differences in application rates by the concentration of minority students in the district (also see Tables A.23 and A.24), with the fraction of districts applying for telecommunications services and Internet access decreasing slightly among the higher minority districts, and increasing for internal connections. Average funding per student, on the other hand, is substantially higher among the high-minority districts for the high-cost telecommunications and internal wiring equipment and services. For example, discounts for telecommunication services average $12 and $10 for the low-minority districts and $22 and $18 for the high-minority districts in Years 1 and 2, respectively. The differences are even greater for internal connections at $36 and $27 for low-minority districts compared to $53 and $70 in the high-minority districts.

Exhibit IV.4: Application Rates (and Funding Per Student) by Type of E-Rate Service, Year, and Key Characteristics: Public School Districts

Characteristic	Telecommunications and Dedicated Services		Internal Connections		Internet Access	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Urban Location						
City	66% ($17)	73% ($14)	61% ($48)	49% ($61)	52% ($3)	60% ($3)
Urban Fringe	68% ($12)	77% ($10)	60% ($29)	43% ($31)	46% ($3)	64% ($3)
Town	73% ($13)	82% ($11)	64% ($42)	50% ($41)	59% ($4)	70% ($4)
Rural	69% ($18)	80% ($15)	57% ($50)	47% ($42)	55% ($7)	68% ($7)
Total Enrollment						
0-2999	64% ($19)	75% ($16)	54% ($57)	43% ($50)	50% ($7)	62% ($7)
3000-7999	80% ($12)	88% ($11)	73% ($49)	54% ($36)	65% ($4)	76% ($4)
8000-24999	86% ($12)	89% ($10)	81% ($45)	62% ($42)	68% ($3)	79% ($4)
25000 and over	93% ($17)	96% ($13)	90% ($35)	84% ($53)	73% ($2)	84% ($2)
Percent Minority						
Less than 5%	73% ($12)	82% ($10)	61% ($36)	44% ($27)	61% ($4)	71% ($5)
5 - <20%	71% ($11)	81% ($9)	60% ($23)	46% ($22)	52% ($3)	69% ($3)
20 - <50%	71% ($13)	80% ($11)	60% ($26)	52% ($27)	52% ($3)	66% ($3)
50% or more	67% ($22)	79% ($18)	64% ($53)	62% ($70)	51% ($4)	66% ($4)
Percent Poverty						
Less than 1%	39% ($60)	42% ($55)	28% ($88)	19% ($103)	27% ($16)	31% ($16)
1 - <20%	76% ($9)	82% ($8)	65% ($6)	41% ($14)	59% ($2)	69% ($2)
20 - <35%	76% ($12)	86% ($10)	65% ($17)	55% ($22)	61% ($3)	72% ($3)
35 - <50%	76% ($14)	86% ($12)	66% ($33)	63% ($31)	60% ($4)	74% ($4)
50 - <75%	74% ($21)	86% ($17)	69% ($56)	67% ($65)	61% ($5)	72% ($4)
75% or more	62% ($40)	77% ($23)	62% ($75)	62% ($85)	49% ($2)	63% ($6)
NATIONAL TOTALS	66% ($15)	76% ($13)	57% ($42)	45% ($48)	52% ($4)	64% ($4)

Notes: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.
Data Sources. The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

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Funding by Service Type and Poverty

Finally, Exhibit IV.4 (and Tables A.25 and A.26) shows the fraction of public school districts applying for E-Rate, and the average funding per student, by service type and the concentration of poverty. Across the different service types the same general patterns appear with only some minor differences across the two years. Application rates are typically lowest for the very low poverty districts (under 1 percent poor children) followed by the highest-poverty districts (75 percent or more), with relatively little variation among districts in the remaining poverty categories. Although the least poor districts have the lowest application rates across the different service categories, those that are funded by the SLD have the highest average funding level regardless of service type. These very low-poverty districts serve less than 2% of the total student population and may be fairly unusual. These low-poverty districts are typically followed in rank order by the districts in the two highest poverty categories (i.e., those with 50 percent or more low-income students).

Application Rates and Funding by Service Type and State

Tables A.27 through A.30 present data on rates of application by public school districts, average dollars committed per student, by state and type of service for the two funding years. The observed patterns cannot be explained within the currently available data, i.e., to understand why certain states have higher (or lower) rates of application by public districts and/or higher (or lower) levels of E-Rate funding requires far more detailed information than is available for this preliminary analysis. Nonetheless, there are some highlights shown in Exhibit IV.5.

Exhibit IV.5: Top Five States For Application Rates and Average Funding Per Student, By Service Type and Year: Public School Districts

Service Type	Application Rates		Average Funding	
	Year 1	Year 2	Year 1	Year 2
Telecommunications	Rhode Island	Rhode Island	Alaska	Alaska
	Tennessee	Georgia	Puerto Rico	DC
	West Virginia	Washington	DC	Puerto Rico
	Washington	West Virginia	Montana	Montana
	Mississippi	Missouri	Vermont	New Mexico
Internal Connections	West Virginia	Tennessee	New Jersey	Connecticut
	Missouri	West Virginia	Connecticut	Illinois
	Washington	Missouri	Wisconsin	New Mexico
	Mississippi	Mississippi	Rhode Island	Arizona
	Indiana	Florida	Alabama	Tennessee
Internet Access	Rhode Island	Rhode Island	Alaska	Alaska
	Tennessee	Georgia	Arizona	South Carolina
	Georgia	Tennessee	Vermont	Vermont
	West Virginia	West Virginia	Oklahoma	South Dakota
	Washington	Washington	Missouri	Tennessee
Total	Rhode Island	Rhode Island	Alaska	New Mexico
	Tennessee	Georgia	Puerto Rico	Illinois
	West Virginia	Tennessee	Kentucky	Puerto Rico
	Missouri	Washington	Alabama	Alaska
	Washington	West Virginia	New Jersey	Kentucky

Notes: Application rates exclude the single-district states of Washington, D.C., Hawaii, and Puerto Rico. Table includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.

Data Sources: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

Public school districts in a small number of states (excluding the single-district states)—Rhode Island, Tennessee, Washington, West Virginia, Missouri, Mississippi, and Georgia—have among the highest application rates across the three service areas. School districts in Alaska, Puerto Rico, and Montana with relatively high costs have the highest levels of per student funding for telecommunications in Year 1 ($70, $56, and $28, respectively; the District of Columbia is at $36), and Year 2 ($61, $24, and $22, respectively; the District of Columbia is at $25) compared to the national averages of $15 and $13 per student in the two years. Alaska also has the highest funding for Internet access in both years, at $19 and $12 per student in Years 1 and 2, compared to the national average of under $4 per student.

Public Schools

The detailed results for public schools are provided in Tables A.31 through A.48 with key characteristics summarized in Exhibit IV.6.

Differences by Urban Location

As shown in Exhibit IV.6, E-Rate application rates for public schools are quite high and have increased from 74 percent of all public schools in Year 1 to 78 percent in Year 2. Public schools located in urban cities have the highest rate of application for E-Rate in both funding years, at 81 percent in Year 1 rising to 83 percent in Year 2; in contrast, the rates are lowest among rural schools at 70 percent in Year 1 but increasing to 75 percent in Year 2. However, as shown in Tables A.45 and A.46 (that combine enrollment size and urban location), small (i.e., fewer than 300 students enrolled) rural public schools have a slightly higher application rate (63 percent) than do small urban public schools (61 percent) in both funding years.

Differences by Size

In general, larger public schools have a higher rate of applying for E-Rate discounts than do smaller public schools (Exhibit IV.6 and also Tables A.33 and A.34). In Year 1, only

61 percent of public schools with fewer than 300 students apply for E-Rate, in comparison to 83 percent of public schools with 1,000 or more students. In Year 2, the application rate of small public schools rose to 66 percent while that of the largest public schools increased to 85 percent. To some extent, this size difference may be related to differences by grade level (i.e., secondary schools which tend to be larger having a higher probability of applying for the E-Rate), but this relationship cannot be examined in the existing data.

The results shown in Tables A.43 and A.44 (that combine school size and the poverty concentration of the associated district) generally show that larger schools have higher application rates than smaller schools at all poverty levels and in both funding years.

Differences by Percent Minority

As shown in Exhibit IV.6 (and in Tables A.35 and A36), there are essentially no differences in E-Rate applications among public schools with different concentrations of students who are minorities (non-white) in both funding years.[34] Examining this relationship more closely in Tables A.47 and A.48 (that combine poverty and percent minority) does not alter this overall pattern.

Differences by Poverty

The final section of Exhibit IV.6 presents results for public schools by the concentration of students eligible for free or reduced-price lunch.[35] The pattern observed in both funding years (also see Tables A.37 and A.38) shows that the least poor schools (i.e., those with less than 1 percent poor students) have the lowest application rates at 42 to 43 percent. The application rates then jump up dramatically to more than 80 percent (from 81 percent to 89 percent across the two years) with relatively little variation with the exception of the highest poverty category (75 percent or more eligible for subsidized

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[34] Categories of minority concentration are those used by Parrish, T. & C.S. Hikido (1998). ***Inequalities in Public School District Revenues***. Washington, D.C.: NCES.

[35] Based on definitions used by NCES in the Common Core of Data (NCES, 2000a).

Exhibit IV.6: E-Rate Application Rates By Year And Key Characteristics: Public Schools

Characteristic	Application Rates	
	Year 1	Year 2
Urban Location		
City	81%	83%
Urban Fringe	75%	78%
Town	76%	80%
Rural	70%	75%
Total Enrollment		
0-299	61%	66%
300-999	82%	85%
1000 or more	83%	85%
Percent Minority		
Less than 5%	76%	80%
5 - <20%	77%	80%
20 - <50%	77%	79%
50% or more	74%	79%
Percent Poverty of District		
Less than 1%	41%	43%
1 - <20%	78%	81%
20 - <35%	80%	83%
35 - <50%	80%	83%
50 - <75%	78%	79%
75% or more	73%	80%
NATIONAL TOTALS	74%	78%

Note: Funding information is not available for schools since most applied as "Item14s" as discussed in Chapter II, and BEN-level funding information cannot be reliably allocated to service sites.

Data Sources: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education. Data are derived from the administrative records provided to the Urban Institute on January 4, 2000.

school meals), where the application rate drops to 71 percent in Year 1 and 79 percent in Year 2. This observation of lower application rates for the poorest schools, also seen for public school districts, may be due to a lower level of technical and financial capacity necessary to take full advantage of the E-Rate. On the positive side, the application rate for these impoverished schools is apparently increasing.

Differences by State

Tables A.39 and A.40 present application and funding rates for public schools by state. In Year 1 application rates varied from 14 percent for the "Other" territories (American Samoa, Guam, Northern Marianas, and the Virgin Islands) to nearly every public school in Hawaii. At the top end of the distribution, twelve states had public school application rates between 90 and 94 percent including Arkansas (94 percent), Rhode Island (94 percent), Georgia (93 percent), Virginia (93 percent), West Virginia (93 percent), and South Carolina (92 percent). Conversely, only 18 percent of the public schools in Puerto Rico applied for the E-Rate, and another five small or sparsely populated states were below 50 percent (New Hampshire, North Dakota, Montana, Maine, and Wyoming). In Year 2, the overall distribution increased with slightly more states having application rates of more than 80 percent for public schools (30 in Year 1 vs. 28 in Year 2), Puerto Rico's rate was up to 45 percent, and only three additional states had rates under 50 percent.

The largest increases in public school application rates were experienced by Wyoming (a change of 50 percentage points) and Puerto Rico (28 percentage points), with another six states experiencing application rate increases of more than 10 percentage points. Some states also had noticeable declines in their application rates—10 percentage points in Vermont, and 4-6 percentage points in five other states. However, as previously discussed for public school districts, such year-to-year swings should not be given too much attention at this early stage in the program since these fluctuations can be due to relatively small changes in the absolute numbers of applying schools, especially given that it is the typically small or sparsely populated states that are observed to have the largest year-to-year changes.

Funding rates for public schools were 98 percent in Year 1 and 2, among those that applied directly for funding. About 20 states had rates of 100 percent each year (i.e., applications were received for all districts in the state), and about 20 more were in the 97-99 percent range. Overall funding rates for public schools that applied for E-Rate ranged as low as 92 percent in Year 1 and 86 percent in Year 2. New Hampshire had the lowest funding rate in both years (92 percent and 86 percent, respectively). In addition, fewer than 94 percent of public schools applying in New Jersey or Montana received funding commitments in Year 1. Montana's rate increased to 96 percent in Year 2, while New Jersey and New Hampshire remained below 94 percent. In fact, the funding rate in New Hampshire decreased from 92 percent to 86 percent. New Hampshire shared the least funding rank with the state of Washington in Year 2. Washington had a funding rate of 100 percent in Year 1 but experienced the largest drop in Year 2 (14 percentage points). Connecticut, Minnesota, and Arizona also dropped below 94 percent in Year 2, with Minnesota having the second largest drop (9 percentage points). Five other states had drops between 4 and 7 points and two states had increases of more than 4 points (Michigan and North Carolina). The remaining states had changes under four percentage points.

Private Schools

Results for private schools are provided in Tables A.49 through A.58, with key characteristics summarized in Exhibit IV.7.

Differences by Urban Location

As shown in Exhibit IV.7, only about 15 to 16 percent of private schools in the nation applied for E-Rate in the first two years of the program, with somewhat higher rates of application in city areas. Eighteen percent of private schools located in cities applied in Year 1, increasing to 20 percent in Year 2, compared to 11 and 12 percent in rural areas and 12 and 13 percent in towns, in Years 1 and 2, respectively. However, the results in Tables A.57 and A.58 (that combine size and urban location) show the importance of school size, with its associated increase in technical and fiscal capacity, regardless of urban location. For example, 12 percent of small city schools (under 300 students), and 10 percent of small rural schools apply for E-Rate, compared to 46 percent of large (over 1,000 students) city schools, and 50 percent of large rural schools.

Somewhat lower funding commitment rates are also found for private schools compared to those observed for public schools. In particular, the probability of being funded is closer to 90 percent for private schools, as compared to more than 96 percent for public schools.

Differences by Size

As noted above, and in Exhibit IV.7, size does matter, i.e., although private schools in general have low application rates, 45 percent of those with more than 1,000 students apply for E-Rate. However, such large private schools enroll only six percent of all private school students in the country. The application rate is also relatively high, at 34 percent, for medium-sized private schools (those between 300 and 1,000 in enrollment), which account for nearly half of the private school student population. Application rates are, however, under ten percent for the remaining (small) private schools. The probability of being funded for private schools is around 90 percent regardless of size.

Exhibit IV.7: E-Rate Application Rates By Year And Key Characteristics: Private Schools

Characteristic	Application Rates	
	Year 1	Year 2
Urban Location		
City	18%	20%
Urban Fringe	13%	15%
Town	12%	13%
Rural	11%	12%
Total Enrollment		
0-299	10%	12%
300-999	34%	36%
1000 or more	45%	41%
Percent Minority		
Less than 5%	15%	17%
5 - <20%	16%	16%
20 - <50%	13%	13%
50% or more	14%	18%
NATIONAL TOTALS	15%	16%

Note: Funding information is not available for schools since most applied as "Item14s" as discussed in Chapter II, and BEN-level funding information cannot be reliably allocated to service sites.

Data Sources: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education. These E-Rate data are derived from the administrative records provided to the Urban Institute on January 4, 2000.

Differences by Percent Minority

For private schools, the NCES data provide information on the fraction of students who are minorities[36] but not on the fraction of students who are poor (the two variables may be correlated, however). As shown in Exhibit IV.7 (and Tables A.53 and A.54) there is little evidence of a relationship between percent minority and E-Rate application or funding rates for private schools. Application rates are only slightly lower (around 13-14%) in the high-minority private schools than in the low-minority private schools, where they are around 15-16 percent.

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[36] The categories used here come from NCES, 2000b.

Differences by State

Tables A.55 and A.56 present differences among private schools by state.[17] In Years 1 and 2, Iowa, New York, Washington, D.C., and Louisiana had the highest application rates for private schools, between 30 and 43 percent. In contrast, in Year 1 fewer than five percent of private schools in Wyoming, New Hampshire, Tennessee, New Mexico, or Arizona applied for E-Rate discounts. New Hampshire and Wyoming remained under five percent in Year 2 and were joined by North Carolina and Vermont. Most of these states had little change in their application rates between Year 1 and 2, although Vermont's rate dropped by 11 percentage points, the largest drop for any state across the two years. Connecticut and Iowa also experienced drops of more than five percentage points in the fractions of private schools applying for E-Rate. Conversely, Kentucky, Rhode Island, and Washington, D.C. experienced the highest increases (10-18 percentage points) in their application rates between Years 1 and 2. As discussed in previous sections, however, these year-to-year changes should be used with caution, as a myriad of factors can lead to the observed patterns. More investigation would be needed to explain many of the observed differences.

Funding rates for private schools also varied considerably by state, ranging from a low of 63 percent in North Dakota in Year 1 to a high of 100 percent for 11 states in the same year and ten states in Year 2. California and Alaska also had rates under 76 percent in Year 1. Interestingly, both North Dakota and Alaska had risen to 100 percent funding rates for private schools in Year 2, and California was up to 95 percent in that year. New Mexico, Arizona, and Maine had rates under 76 percent in Year 2. Of these states, New Mexico and Maine had had 100 percent funding rates in Year 1, and Arizona had been at 88 percent the prior year. Clearly these rates vary greatly by state and over time for some of the same reasons discussed above for public districts and schools.

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[17] The private school survey only covers Washington, D.C. and the 50 states, i.e., Puerto Rico and the other U.S. territories are omitted in the tables provided in Appendix A.

Public Libraries

Results for public library systems are provided in Appendix A (Tables A.59 through A.82) and summarized for key characteristics in Exhibits IV.8 through IV.11 below. Library systems, rather than library branches, are used in this analysis and are counted as having applied for E-Rate if it applies on its own, or if any library branch within the system applies, either on its own or as part of a consortium.

Differences by Urban Location[38]

As shown in Exhibit IV.8, application rates for public library systems in Year 1 averaged about 70 percent for urban libraries, 58 percent for suburban libraries, and 44 percent for rural libraries. Not surprisingly, the amount of E-Rate funding per capita[39] provided to approved applicants also varied, ranging from about $0.29 per person for urban libraries to $0.21 per person for suburban libraries, and $0.25 per person for rural libraries. Application rates changed little in Year 2, but average funding per person dropped somewhat in suburban and rural areas, by about 24 percent and 8 percent respectively. This observed drop is, as previously mentioned, a likely result of the SLD's more stringent application of the E-Rate rules and procedures in the second year of operation.

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[38] The urban location categories are used in the U.S. Department of Education's Public Library Survey and in "The 1997 National Survey of U.S. Public Libraries and the Internet" by the American Library Association Office for Information Technology Policy (1997). They differ from those used by SLD to calculate E-Rate discounts and from those used by NCES for schools and districts.

[39] We use the total population in the library system's defined service area.

Exhibit IV.8: E-Rate Application Rates and Average Funding By Year And Key Characteristics: Public Libraries

Characteristic	Application Rates		Average E-Rate Discount Per Person	
	Year 1	Year 2	Year 1	Year 2
Urban Location				
City	70%	71%	$0.29	$0.29
Suburban	58%	58%	$0.21	$0.16
Rural	44%	47%	$0.25	$0.23
Total Population Served				
Less than 5,000	33%	37%	$0.56	$0.54
5,000-24,999	57%	57%	$0.24	$0.24
25,000-99,999	65%	65%	$0.22	$0.19
100,000-499,999	79%	79%	$0.23	$0.21
500,000-999,999	87%	94%	$0.33	$0.27
Over 1 Million	80%	95%	$0.21	$0.20
Percent Poverty				
Less than 9%	52%	51%	$0.18	$0.15
9 to 15%	47%	49%	$0.20	$0.23
15 to 22%	49%	55%	$0.25	$0.21
22% or more	54%	57%	$0.37	$0.30
NATIONAL TOTALS	49%	51%	$0.25	$0.22

NOTES: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.
DATA SOURCES: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

Differences by Size

Exhibit IV.8 also presents results for public library systems by the estimated size of the population served. As shown, about 33 percent of the smallest libraries (those serving fewer than 5,000 people) applied for E-Rate in Year 1, compared to rates of more than 80 percent for the largest libraries (over 500,000 persons served). Funding per person, among those funded, was highest (at $0.56) in the smallest libraries, 2nd highest at $0.33 in the 500,000-1 million size category, and ranged from $0.21 to $0.24 elsewhere.

In Year 2, application rates rose for the smallest size category, and for the two largest size categories with those libraries serving more than 1 million residents having the greatest gains, increasing from 80 to 95 percent. Applications remained low, however, in the smallest size category, at 37 percent. Average funding per person fell from $0.33 to $0.27 in the large (500,000-1 million) size category, but remained fairly stable in the other size categories. In large part, this decrease is due to a reduction in the application rate for costly internal connections between the two funding years (see below).

Differences by Poverty

To examine the relationship between E-Rate and poverty concentration for library systems, four quartiles were created, each accounting for about ¼ of the total population served.[40] As shown in Exhibit IV.8, there is little variation in application rates by poverty in Year 1, although libraries in the lowest and highest poverty quartiles do have somewhat higher application rates (at 52 and 54%) than the middle two quartiles (at 47 and 49 percent). In Year 2, application rates increase in all but the lowest poverty quartile, rising to 55 percent in the 3rd quartile (15-22 percent poverty) and 57 percent in the highest poverty quartile. Funding per person, among those funded, drops somewhat for most groups, and especially for the highest poverty libraries, decreasing from $0.37 to $0.30 per person. Funding per person rises somewhat in the 2nd lowest poverty quartile (i.e., 9 to 15 percent poor) from $0.20 to $0.23.

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[40] Poverty for a library system is the average of the poverty rates of its branches, weighted by the population served by each branch. Poverty for a branch is the fraction of the population in the legal service area that is in poverty. This is different from the definition used to determine the E-Rate discount, which is based on the fraction of students eligible for free or reduced-price lunch in the school district in which the library resides. The poverty variable used here comes from the data used in the report "Moving Toward More Effective Public Internet Access: Internet Connectivity: The 1998 National Survey of Public Library Outlets," a report based on research sponsored by the U.S. National Commission on Libraries and Information Science and the American Library Association and conducted by John Carlo Bertot & Charles R. McClure. Washington, D.C.: U.S. Government Printing Office, 1999. The actual data used in this report, however, differ slightly from the ALA report because of updates provided by the ALA in June 2000.

Differences by State

As shown in Exhibit IV.9, there are wide variations among states in terms of both the propensity for public libraries to seek E-Rate funding, and the average level of funding obtained by those funded by the SLD.[41] In Year 1, application rates for libraries ranged from under 17 percent in Maine, South Dakota, New Hampshire, and North Dakota to more than 95 percent in Hawaii, Washington, D.C., West Virginia, and Mississippi. The pattern is very similar in Year 2 except that Wyoming joins the top group, increasing from only 48 percent in Year 1 to 100 percent in Year 2. Washington, Montana, and Oklahoma also experienced large increases in their library application rates, from 19 to 27 percentage points. On the other hand, the library application rates in New Mexico, Nevada, and South Carolina dropped by more than 10 percentage points each from Year 1 to Year 2 (see Appendix A).

Funding per person, in funded libraries, varied from $0.04 in Hawaii to $0.94 in the District of Columbia in Year 1. Wisconsin and Alaska were also quite high, at $0.89 and $0.75 respectively. Four states were under $0.10 and the remaining states were between $0.10 and $0.49 per person. Funding in Year 2 fell somewhat. Hawaii remained near the bottom at $0.07 per person, and the District of Columbia was still near the top, but had dropped to $0.67 per person. Alaska was first at $0.68 and Arkansas was last at $0.05.

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[41] Puerto Rico and the other territories are omitted from this table, and those in Appendix A, because they are not covered in the Public Library Survey.

Exhibit IV.9: E-Rate Application Rates and Funding By Year And State: Public Libraries

	Application Rate				Average Discount Per Person			
	Year 1		Year 2		Year 1		Year 2	
Highest States	DC	100%	DC	100%	DC	$0.94	Alaska	$0.68
	Hawaii	100%	Hawaii	100%	Wisconsin	$0.89	DC	$0.67
	West Virginia	99%	Wyoming	100%	Alaska	$0.75	Oregon	$0.49
	Mississippi	96%	West Virginia	99%	Vermont	$0.49	Maryland	$0.43
	Georgia	94%	Mississippi	98%	Louisiana	$0.48	New York	$0.38
	Louisiana	92%	Georgia	96%	Alabama	$0.42	New Jersey	$0.36
	South Carolina	83%	Louisiana	88%	Mississippi	$0.40	Georgia	$0.34
	Ohio	79%	Maryland	88%	Indiana	$0.37	Virginia	$0.33
	Minnesota	79%	North Carolina	82%	Washington	$0.37	Maine	$0.32
	North Carolina	76%	Minnesota	80%	Florida	$0.33	Minnesota	$0.32
	Maryland	75%	Pennsylvania	78%	Nebraska	$0.32	Delaware	$0.31
	Missouri	74%	Montana	78%	Kansas	$0.32	Wisconsin	$0.31
	Nevada	71%	Tennessee	76%	Michigan	$0.31	Vermont	$0.31
	New York	71%	Missouri	76%	Kentucky	$0.31	Nebraska	$0.31
			Ohio	76%				
			Florida	73%				
Lowest States	Maine	9%	North Dakota	9%	Hawaii	$0.04	Arkansas	$0.05
	South Dakota	15%	Maine	15%	Tennessee	$0.05	Hawaii	$0.07
	New Hampshire	15%	South Dakota	16%	Minnesota	$0.08	Massachusetts	$0.09
	North Dakota	16%	New Hampshire	16%	South Carolina	$0.08	South Carolina	$0.09
	Oregon	25%	New Mexico	22%	California	$0.11	Rhode Island	$0.09
	Alaska	27%	New Jersey	30%	North Dakota	$0.12	Tennessee	$0.10
	Texas	28%	Wisconsin	31%	Arkansas	$0.12	West Virginia	$0.11
	Kansas	28%	Kansas	31%	Pennsylvania	$0.12	Nevada	$0.11
	New Jersey	29%	Oregon	34%	Nevada	$0.12	Pennsylvania	$0.12
	Wisconsin	30%	Alaska	34%	Arizona	$0.13	Louisiana	$0.13
	Idaho	31%			Oregon	$0.14	Utah	$0.14
							Missouri	$0.14
							South Dakota	$0.14
							California	$0.14
National Average	50%		52%		$0.25		$0.22	

NOTES: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.
DATA SOURCES: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

The rest of the distribution changed little, with five states being under $0.10 and the rest between $0.10 and $0.49 in Year 2. The largest increase between Years 1 and 2 was in Oregon ($0.35), and the largest drops were in Wisconsin ($0.57), Louisiana ($0.35), and Washington, D.C. ($0.28). As with discussions in other sections of this chapter, there are a number of likely explanations for these observed state-to-state and year-to-year differences, many of which cannot be derived from the data available for this analysis.[42] In some cases, the observed variation may reflect differences in actual (or perceived) need for E-Rate support (e.g., a state with technologically advanced library systems may have a lower need for E-Rate support than one with libraries that are at an earlier stage of development); in other cases, the differences may reflect variations in poverty, population density, and the cost of obtaining E-Rate-eligible services and equipment. To understand these patterns would require far more in-depth study of specific states than is possible within this analysis, and this may be a good focus of future research by the American Library Association.

Funding by Service Type and Urban Location

As shown in Exhibit IV.10, about half of all public library systems applied for E-Rate discounts for telecommunications services in Year 1, 20 percent applied for internal connections, and about 23 percent applied for Internet access. Application rates for telecommunications remained high in Year 2 and were also the highest in both years by urban location. Internal connections application rates were lowest in both years and by urban location. In Year 2, internal connections application rates dropped substantially, while Internet access application rates rose substantially and telecommunication services application rates rose slightly. These patterns also held by urban location.

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[42] One hypothesis suggested by a number of people who reviewed this report is that consortia would not always list all of the individual library branches to which E-Rate funds would be allocated. According to SLD staff, this is a very unlikely occurrence.

As seen for other entity types, internal connections had the highest funding per person overall and by urban location in both years. In Year 1, public library systems that were approved for this type of funding received $0.28 per person compared to only $0.17 for telecommunications and $0.07 for Internet access. In Year 2, funding per person fell substantially for internal connections and slightly for telecommunications and dedicated services and Internet access. Similar patterns were found by urban location.

Funding by Service Type and Size

Exhibit IV.10 also presents application and funding by population size and service type. Telecommunication services had higher application rates than internal connections or Internet access in all size categories in both program years. Application rates for internal connections were generally lowest, except in a few cases, most noticeably in Year 1 when libraries serving more than 500,000 people had internal connections application rates higher than their Internet access application rates by about 10 percentage points.

Application rates increase dramatically with size in both years and for all types of service, except that the largest libraries (serving more than 1 million) have somewhat lower application rates than the next largest category (serving 500,000 to 1 million). Application rates for telecommunication services rose from 31 percent in the smallest (under 5,000) category to 85 percent in the 500,000 to 1 million category in Year 1. The increase is even more dramatic for internal connections in Year 1, with the rate going from only 8 percent in the smallest libraries to 75 percent in the 500,000 to 1 million category.

Funding per person is higher for internal connections (at $0.28 in Year 1) than for telecommunication services or Internet access in all size categories in both program years. Funding per person generally decreases with size as the large investment costs are

Exhibit IV.10: Application Rates (and Funding Per Person) by Type of E-Rate Service, Year, and Key Characteristics: Public Libraries

Characteristic	Telecommunication Services		Internal Connections		Internet Access	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Urban Location						
City	66% ($0.18)	68% ($0.17)	36 %($0.28)	28% ($0.27)	38% ($0.05)	46% ($0.05)
Suburban	55% ($0.16)	55% ($0.12)	28 %($0.20)	18% ($0.14)	31% ($0.07)	36% ($0.06)
Rural	42% ($0.19)	45% ($0.16)	15 %($0.34)	10% ($0.28)	18% ($0.10)	26% ($0.10)
Total Population Served						
Less than 5,000	31% ($0.44)	35% ($0.40)	8 %($1.79)	6% ($1.14)	14% ($0.25)	18% ($0.29)
5,000-24,999	55% ($0.19)	55% ($0.16)	23 %($0.46)	17% ($0.40)	25% ($0.14)	34% ($0.14)
25,000-99,999	62% ($0.16)	62% ($0.12)	34 %($0.28)	21% ($0.26)	33% ($0.10)	41% ($0.09)
100,000-499,999	75% ($0.16)	72% ($0.14)	45 %($0.26)	26% ($0.19)	49% ($0.07)	59% ($0.05)
500,000-999,999	85% ($0.21)	94% ($0.16)	75 %($0.43)	56% ($0.26)	65% ($0.04)	67% ($0.05)
Over 1 Million	80% ($0.13)	85% ($0.13)	65 %($0.16)	55% ($0.22)	55% ($0.02)	50% ($0.01)
Percent Poverty						
Less than 9%	49% ($0.15)	48% ($0.13)	22 %($0.18)	14% ($0.10)	25% ($0.07)	30% ($0.05)
9 to 15%	44% ($0.16)	46% ($0.15)	16 %($0.13)	11% ($0.26)	21% ($0.04)	26% ($0.04)
15 to 22%	46% ($0.19)	52% ($0.15)	18 %($0.20)	15% ($0.17)	22% ($0.06)	33% ($0.08)
22% or more	50% ($0.19)	53% ($0.16)	28 %($0.35)	19% ($0.30)	25% ($0.10)	37% ($0.08)
NATIONAL TOTALS	46% ($0.17)	48% ($0.15)	20 %($0.28)	13% ($0.23)	23% ($0.07)	30% ($0.06)

NOTES: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.
DATA SOURCES: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

spread over larger numbers of people residing in the service area. For instance, average funding ranges from $0.44 per person in the smallest libraries for telecommunication services in Year 1 to $0.13 per person in the largest libraries. In general, the smallest libraries spend more than twice as much per person as libraries in any other category. There is a small exception to the pattern of decreasing expenditures with size. Funding per person for telecommunication services and internal connections is relatively high in the medium large (500,000-1 million person) libraries, though still less than half of the spending in the smallest libraries.

Funding by Service Type and Poverty

Application rates and funding per person by poverty and type of service are also presented in Exhibit IV.10. Application rates for telecommunications are highest in the highest poverty libraries for all service types in Years 1 and 2, but there is little variation in application rates by poverty category (ranging from 44 percent to 53 percent). Application rates vary somewhat more for internal connections (11-28 percent) and Internet access (21-37 percent). Interestingly, the lowest application rates are generally found in the 2nd lowest poverty category (9-15 percent poor), suggesting that the very low poverty libraries may be in a better position to apply for E-Rate funds than higher poverty libraries.

Funding per person increases with poverty for telecommunication services, ranging from $0.15 per person in the lowest poverty category in Year 1 to $0.19 per person in the highest category. More generally, funding per person is highest in high-poverty libraries for all types of services. The patterns in per person funding by poverty vary for internal connections and Internet access, but the second lowest poverty category (9-15 percent poor) generally has the lowest spending per person, again suggesting that the lowest poverty libraries are in a somewhat better position to make use of the E-Rate program.

Funding by Service Type and State

Finally, Exhibit IV.11 presents application rates and funding per person (among libraries receiving funding of that type), by state, year, and service type. Washington, D.C. and Hawaii stand out for having the highest application rates for telecommunication services. However, each has only one library system. West Virginia, Georgia, and Mississippi are also notable for having high application rates (over 90 percent) for telecommunication services in both years. At the other end of the distribution, four states had application rates under 20 percent for telecommunications in both years.

Mississippi and Washington, D.C. are also in the top five for state application rates for internal connections and for Internet Access. The rates for internal connections are substantially lower, with no state other than Washington, D.C. (a single system) having a rate more than 90 percent, and in Year 2 only five states had a rate more than 38 percent. At the other end of the distribution, 27 states had internal connection application rates under 20 percent in Year 1, increasing to 37 states in Year 2. South Carolina and Missouri appear in the top five for state application rates for both internal connections and Internet access in Year 1, and Missouri appears again in Year 2 for internal connections.

Application rates for telecommunication services are higher than for internal connections or Internet access for almost all states in Year 1— application rates are highest for 23 states for internal connections. In Year 2, however, application rates for internal connections decline and application rates for Internet access increase, leaving only 4 states with higher rates for internal connections than Internet access. Washington, D.C. also has the highest funding per student for telecommunication services of all states in both years, at $0.69 in Year 1 and $0.57 in Year 2. Alaska is second at $0.58 in Year 1 and $0.41 in Year 2. The other states in the top 5 vary by year.

Exhibit IV.11: Top Five States For Application Rates and Average Funding Per Person, By Service Type and Year: Public Libraries

Service Type	Application Rates				Average Funding Per Person			
	Year 1		Year 2		Year 1		Year 2	
Telecommunication Services	DC	1.00	DC	1.00	DC	$0.69	DC	$0.57
	Hawaii	1.00	Hawaii	1.00	Alaska	$0.58	Alaska	$0.41
	West Virginia	0.99	West Virginia	0.99	Vermont	$0.37	Delaware	$0.31
	Mississippi	0.96	Georgia	0.96	Alabama	$0.36	Minnesota	$0.31
	Georgia	0.94	Mississippi	0.94	Indiana	$0.35	Wisconsin	$0.26
Internal Connections	DC	1.00	DC	1.00	Alaska	$20.77	Alaska	$21.84
	Mississippi	0.89	Missouri	0.72	Iowa	$5.09	Missouri	$1.02
	S. Carolina	0.80	Massachusetts	0.47	Colorado	$2.49	New Hampshire	$0.75
	Louisiana	0.75	Mississippi	0.45	Wisconsin	$2.20	Iowa	$0.67
	Missouri	0.73	Arizona	0.39	Washington	$1.59	Maryland	$0.65
Internet Access	DC	1.00	DC	1.00	South Dakota	$0.27	Louisiana	$0.54
	Mississippi	0.91	Georgia	0.93	Michigan	$0.21	West Virginia	$0.38
	S. Carolina	0.78	West Virginia	0.93	Mississippi	$0.20	Alaska	$0.17
	Missouri	0.71	Wyoming	0.87	Alaska	$0.18	Mississippi	$0.16
	Ohio	0.70	Mississippi	0.85	Nevada	$0.17	Kansas	$0.13
Total	DC	1.00	DC	1.00	DC	$0.94	Alaska	$0.68
	Hawaii	1.00	Hawaii	1.00	Wisconsin	$0.89	DC	$0.67
	West Virginia	0.99	Wyoming	1.00	Alaska	$0.75	Oregon	$0.49
	Mississippi	0.96	West Virginia	0.99	Vermont	$0.49	Maryland	$0.43
	Georgia	0.94	Mississippi	0.98	Louisiana	$0.48	New York	$0.38

NOTES: Includes funding commitments made by January 4, 2000; averages are for entities that received funding. See Appendix A for more details.
DATA SOURCES: The Schools and Libraries Division of the Universal Service Administrative Company and the U.S. Department of Education.

Funding per person is considerably higher for internal connections, especially in Alaska, where it is $20.77 in Year 1 and $21.84 in Year 2. The next highest state in Year 1 is Iowa, at only $5.09, and in Year 2 Missouri, at $1.02. Alaska also appears in the top 5 states for funding per person for Internet Access, but no state is more than $0.27 per person in Year 1 or $0.54 in Year 2. No other state appears in the top 5 for funding in more than one category in either year.

As noted above, these state-to-state and year-to-year variations are due to a myriad of complex factors that cannot be explained by the currently available data, and will require further study to understand in depth.

All Entity Types

This final section combines all entity types to examine the distribution of total E-Rate funds by state, as well as overall patterns of funding by type of equipment and/or service.[43] These data are provided in Tables A.83 through A.86 and summarized in Exhibit 3 of the Executive Summary.

Funding by Service Type and State

As shown in Tables A.85 and A.86, five states account for about 40 percent of total E-Rate dollars provided to all types of eligible entities—California, New York, Texas, Illinois, and Georgia received a total of $668 million out of $1.72 billion in Year 1 (38.8 percent) and $828 million out of $1.95 billion (42.4 percent) in Year 2. The states receiving the least funding in Year 1 include Delaware ($1.02 million), Wyoming ($1.23 million), and New Hampshire ($1.6 million); the lowest funded states in Year 2 are New Hampshire ($1.27 million), Delaware ($1.57 million), and Vermont ($1.58 million).

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[43] This discussion focuses on total E-Rate funding and total funding per thousand residents by state. This includes funding committed to all types of entities, including those not covered in previous tables, such as consortia.

In part, this distribution reflects difference in state populations. Consequently, examining the distribution on a per capita basis yields a very different picture:

- ***Year 1:***
  1. ***Top 5 States in E-Rate Funding Per 1,000 Persons:*** Alaska ($21,967), Kentucky ($12,793), Puerto Rico ($12,363), Mississippi ($11,914), and New Mexico ($11,116).
  2. ***Bottom 5 States in E-Rate Funding Per 1,000 Persons:*** New Hampshire ($1,367), Delaware ($1,367), Maine ($2,411), Wyoming ($2,565), and Iowa ($2,577).
- ***Year 2:***
  1. ***Top 5 States in E-Rate Funding Per 1,000 Persons:*** Alaska ($19,547), District of Columbia ($17,994), Puerto Rico ($17,449), New Mexico ($16,713), and Kentucky ($14,264).
  2. ***Bottom 5 States in E-Rate Funding Per 1,000 Persons:*** Nevada ($995), New Hampshire ($1,055), Delaware ($2,080), Utah ($2,533), and Colorado ($2,650).

Examining funding by type of eligible E-Rate service shows the following patterns:

- ***Telecommunications:*** per 1,000 persons funding in Year 1 ranges from a low of $794 in Hawaii to a high of $14,812 in Alaska, and from a low of $731 in New Hampshire in Year 2 to a high of $12,822 again in Alaska. States with the highest levels of per capita funding in Year 1 include Alaska, Puerto Rico, District of Columbia, New York, and Kentucky; in Year 2 Michigan and Wyoming replace New York and Kentucky.

- ***Internal Connections:*** per 1,000 person funding in Year 1 ranges from $19 in Delaware to $8,631 in Kentucky, and from $68 in Nevada in Year 2 to $13,154 in New Mexico. States with the highest levels of per capita funding in Year 1 include Kentucky, Alabama, Georgia, New Mexico, and California; in Year 2 Illinois, Puerto Rico, and District of Columbia join the top five states.

- ***Internet Access:*** per 1,000 person funding ranges from a low of $26 and $51 in Nevada in Years 1 and 2, to highs of $4,480 and $3,562 respectively in Tennessee. States with the highest levels of per capita funding in Year 1 include Tennessee, Alaska, Arkansas, West Virginia, and Oklahoma. In Year 2, Puerto Rico, Missouri, and Louisiana joined the top five states.

One factor that may explain these variations is that those states that have well-developed infrastructure may be less able to obtain large amounts of E-Rate funding than those states where schools and libraries are at an earlier stage of technology development.

As a final effort to show the state-to-state differences, Exhibit 3 (in the Executive Summary) shows total E-Rate funding per 1,000 population by state in Year 2. This includes funding that went to all types of eligible entities, including districts, schools, libraries, and consortia. Three states had funding levels over $15,000 per 1,000 population (Alaska, New Mexico, and Washington, D.C.) and another six were over $10,300 (New York, Illinois, Kentucky, Tennessee, Georgia, and Mississippi.) At the other end of the distribution, thirty states had funding levels under $5,600 per 1,000 population. All but three of these states are north of the line going across the U.S. from the border between Virginia and North Carolina to the border between Utah and Arizona. The three more southern states with low E-Rate funding are Arkansas, North Carolina, and Florida. This pattern roughly corresponds to that of child poverty by state. Indeed, one of the more southern states with low E-Rate funding (North Carolina) also has relatively low child poverty (under 20 percent), while two of the more northern states with high E-Rate funding (Kentucky and New York) have relatively high child poverty (over 20 percent) based on Annie E. Casey Foundation (1999).

Chapter V: Conclusions

The results discussed in Chapter IV, albeit based on a preliminary look at the E-Rate, suggest some important policy and program conclusions that may have implications for future program operations, as well as for further research on the E-Rate and educational technology in general. The key themes that have emerged from this analysis are discussed in this chapter, organized around the three major policy questions that served as the basis for this effort: Who applies for and who receives E-Rate discounts? What types of equipment and services do they apply for? And, how do these patterns vary by the characteristics of the participants, across the two funding years examined here, and by state?

Who Applies For And Who Receives E-Rate Discounts?

As shown in Exhibit V.1, public school districts are, by far, the largest recipient of E-Rate discounts, accounting for about 80 percent of total funding across the first two years of the program; adding funding provided directly to public schools raises the allocation to the public school sector to about 84 percent of all E-Rate funding support. State consortia and federally administered schools (through the Bureau of Indian Affairs and the Department of Defense) received about six percent of the total funds, libraries about four percent, private schools about three percent, and about three percent went to other types of eligible consortia.

In terms of the extent to which E-Rate has "penetrated" the different segments of the targeted institutions, the program has clearly made its most substantial inroads into the nation's public schools, with about three-fourths of all public districts and schools applying for E-Rate in each of the first two years of the program. Application rates are lower for libraries, at about 50 percent, and significantly lower for private schools, where only about 15-16 percent of those eligible have sought E-Rate funds.

Exhibit V.1: Overall Distribution of E-Rate Funds by Entity Type

(Years 1 and 2 Combined)

Entity Type	Total Dollars	Percent of Total
Public Districts	$2,912,905,174	79%
States and Federal Schools	$205,428,673	6%
Public Schools	$200,981,734	5%
Libraries	$145,329,402	4%
Private Schools	$111,096,113	3%
All Other	$104,002,034	3%
Total	$3,679,743,130	100%

Note: As of January 4, 2000.
Data Source: The Schools and Libraries Division of the Universal Service Administrative Corporation.

What Types of Equipment And Services Are Being Subsidized?

As shown in Exhibit V.2, during the two funding years examined in this report, discounts for internal connections have accounted for the largest share of total E-Rate funds, at 58 percent out of a combined two-year total of about $3.68 billion. Thirty four percent went to support various types of eligible telecommunications equipment and services, and the remaining eight percent went to support the cost of Internet access.

Application rates are typically higher for telecommunication services but because of the higher cost of providing internal connections, applicants funded for this category of service generally receive higher total (and per student) funding levels. For example, among public school districts (which account for the largest share of total E-Rate funding), application rates for telecommunication services were 66 and 76 percent respectively in Years 1 and 2, compared to 57 and 45 percent for internal connections and 52 and 64 percent for Internet access. However, committed funds per student were clearly higher for internal connections at $42 and $48 per student, compared to $15 and $13 per student for telecommunication services in Years 1 and 2, respectively. (Internet access in both years averaged only about $4 per student.)

Application rates are higher for all types of services among larger institutions, and typically higher within nonurban locations (i.e., towns and rural areas) for telecommunication services and Internet access.

How Do These Patterns Vary By Poverty and Urban Location?

The E-Rate funding formula, as well as decisions made by the SLD regarding funding priorities, are clearly targeted to higher poverty districts, schools, and libraries, especially those located in urban and rural locations. Do the data support the intended distribution?

Exhibit V.2: Overall E-Rate Funding By Eligible Service Type (Years 1 and 2 Combined)

Service Type	Total Dollars	Percent of Total
Telecommunications	$1,260,390,355	34%
Internal Connections	$2,138,274,551	58%
Internet Access	$278,265,275	8%
Total	$3,679,743,130	100%

Notes: As of January 4, 2000. See Chapter IV for service definitions.
Data Source: The Schools and Libraries Division of the Universal Service Administrative Corporation.

Poverty Concentration

Not surprisingly, poverty matters a great deal for the distribution of E-Rate funds. For example, as shown in Exhibit V.3, about 60 percent of total E-Rate funds to public school districts go to those districts with more than 50 percent of their students eligible for free and reduced-price lunches, even though these high-poverty districts serve only about one-fourth of all public school students.

Similarly, for libraries, about 40 percent of committed funds go to the highest poverty libraries, which serve only about 23 percent of the total population served. This is largely because the highest poverty libraries receive about twice as much E-Rate funding per person as that provided to the least poor libraries.

The relationship between application *rates* and poverty, however, shows a more complicated story.[44] For public districts and schools, the lowest application rates are observed among the least poor institutions. About 42 percent of those with less than one percent of low-income students apply, compared to application rates of more than 80 percent for those districts and schools with up to 75 percent of their students eligible for subsidized school meals. However, application rates actually decline by about 10 percentage points for the poorest districts and schools (those with more than 75 percent low-income students). This drop-off may reflect a decreased capacity in these very poor communities. But on the positive side, application rates among the highest poverty school districts increased from 71 to 79 percent from Year 1 to Year 2, indicating that these institutions are beginning to overcome any initial barriers to their full participation in the E-Rate.

For libraries, those serving the poorest communities were most likely to apply in Year 1, but the differences by poverty concentration were fairly small. In Year 2, application rates rose somewhat for all but the least poor libraries.

Urban Location

Urban location is also an important determinant of how E-Rate funds are distributed. In general, districts, schools, and libraries in cities receive more funds than those in rural areas. For example, as shown in Exhibit V.4, city districts received nearly half of the total funds going to districts even though they serve only about one-third of the total student population. This occurred, in part, because city districts receive a higher average level of funding per student than rural districts. The differences in per-student allocations by urban location were particularly noticeable in large school districts, reflecting, at least in part, the greater need for internal connections—with their higher cost—in older urban schools.

While city districts receive more committed funds per student (if they applied), there is not a strong relationship between the likelihood of applying for E-Rate and urban location for public school districts, although when this is broken down by enrollment size, small rural districts have a higher application rate than urban districts of comparable size. Among public and private schools, those located in urban cities have higher application rates.

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[44] Information on poverty concentration is not available from the NCES for private schools.

The E-Rate funding formula favors urban areas because it gives preference to high-poverty schools that tend to be located in urban areas. Controlling for poverty, however, the formula favors rural schools with less than 50 percent of their students on free and reduced-price lunch, in comparison to urban schools with similar levels of poverty. We find strong evidence suggesting that this preference for rural areas did affect the distribution of E-Rate funds. In particular, rural districts with 1 to 50 percent of their students on free lunch received higher funding per student than similar non-rural districts.

Libraries in urban areas receive about 44 percent of total E-Rate funds directed to libraries but serve only about one-third of the total population served. This occurs in part because urban libraries have higher application rates, and in part because they receive more funding per person. They receive higher funding per person because urban areas generally have many high-poverty schools and library discount rates are based on the poverty levels of nearby schools. In addition, urban libraries may have started with lower levels of technology access than libraries in other areas.

Exhibit V.3: E-Rate Commitments By Poverty Concentration: Public School Districts

Percent Eligible for Free and Reduced-Price Meals	National Percent of Total Students N=38.8 million	Total Commitments (Year 1) ($000)	Total Commitments (Year 2) ($000)	Commitments as a Percent of Total Year 1	Commitments as a Percent of Total Year 2
Less than 1%	1.1%	$17,777	$24,267	1.6%	2.1%
1 to < 20%	30.1%	85,800	106,315	7.9%	9.1%
20 to < 35%	26.1%	151,008	180,121	13.8%	15.4%
35 to < 50%	15.8%	181,360	169,669	16.6%	14.6%
50 to < 75%	22.6%	502,011	530,623	46.0%	45.5%
75% or more	4.3%	152,948	155,498	14.0%	13.3%
Total	100.0%	$1,090,906	$1,166,494	100.0%	100.0%

Exhibit V.4: E-Rate Funds By Urban Location: Public School Districts

Urban Location	National Percent of Total Students N=46.4 million	Total Commitments (Year 1) ($000)	Total Commitments (Year 2) ($000)	Commitments as a Percent of Total Year 1	Commitments as a Percent of Total Year 2
City	32.9%	$622,641	$718,014	48.7%	50.0%
Urban Fringe	29.5%	227,382	278,811	17.8%	19.4%
Town	23.3%	249,301	266,381	19.5%	18.5%
Rural	14.4%	178,307	173,952	14.0%	12.1%
Total	100.0%	$1,277,631	$1,437,159	100.0%	100.0%

Notes: As of January 4, 2000. National totals vary across tables due to missing data.

Data Source: The Schools and Libraries Division of the Universal Service Administrative Corporation and the U.S. Department of Education.

The application rates for urban public libraries averaged about 70 percent, compared to only 58 percent and 44 percent for suburban and rural libraries respectively in Year 1. Funding per person in urban libraries that were funded averaged about $0.29 per person, compared to only $0.21 and $0.25 in suburban and rural libraries.

These relationships do vary somewhat with size. For example, among smaller libraries (those serving fewer than 25,000 people), being in a rural location is associated with somewhat lower application rates, while the reverse is true for larger libraries (those serving more than 100,000 people).

Do Other Characteristics Matter?

Beyond the two characteristics that are of primary importance to the E-Rate—poverty and rural location—this analysis also examined the extent to which application rates and funding varied by the size of the eligible institution and the degree of concentration of minorities.

Enrollment Size

Size matters regardless of the type of eligible E-Rate institutions, as the larger institutions are able to bring more technical, human, and fiscal resources to bear on the need for expanded technology. For example, as shown in Exhibit V.5, in both funding years the largest public school districts received the greatest share of total E-Rate funding commitments for public school districts ($554 million out of $1.3 billion in Year 1, and $695 million out of $1.5 billion in Year 2). These large districts also received the highest average level of E-Rate funding at $44 per student in Year 1, increasing to about $56 per student in Year 2, compared to the lowest level of about $29 per student in each year.

Similarly, application rates for public school districts are positively related to enrollment size, with 96 percent of the largest districts (more than 25,000 students) applying for E-Rate compared to about 71 percent of the smallest districts (less than 3,000 students). Moreover, the relationship between size and application rate holds even when controlling for district poverty (e.g., larger low-poverty districts are more likely to apply than smaller low-poverty districts). The patterns in application rates noted above also hold for public schools.

Size also matters for private schools. As noted above, although private schools in general have low application rates, the larger private schools were more likely to seek E-Rate funding than smaller schools (45 percent of those with more than 1,000 students applied for E-Rate discounts), but these large private schools enroll only six percent of the total private school population. In contrast, application rates are under ten percent for the smallest private schools.

As with districts and schools, larger library systems are considerably more likely to apply for E-Rate discounts than smaller libraries (e.g., about 33 percent of the smallest libraries apply, compared to 80 percent of those serving more than one million people). Funding per person (among those funded) is, however, highest for the small libraries at $0.56 per person, compared to, for example, $0.33 per person in the 500,000—one million size category, and $0.21-$0.24 per person elsewhere.

Minority Student Concentration

Among districts, and public and private schools, there were no significant relationships between E-Rate applications and the concentration of minority students. This is a positive finding, as all eligible district and school applicants, regardless of the racial and ethnic make-up of their students, are equally likely to apply for E-Rate funds. (Data on minority concentration are not available for library systems.)

Because funding is, however, related to poverty—and minority students tend to be concentrated in low-income areas—the total amount of E-Rate funding generally rises with increasing percentages of minority students. For example, total E-Rate commitments to public school districts ranged from $120 million for those with less than five percent minority students (see Exhibit V.6) to more than $800 million for districts with 50 percent or more minority students. Similarly, average E-Rate funding per student ranged from $17—$21 for districts with less than 20 percent minority students to almost $67 per student for high-minority districts in Year 1.

How About State Differences?

Regardless of entity type, there are substantial differences across states in terms of both application rates and average funding levels, and five states account for about 40 percent of total E-Rate dollars provided to all types of eligible entities but only about one-third of the student population. California, New York, Texas, Illinois, and Georgia received a total of $668 million out of $1.72 billion in Year 1 (38.8 percent) and $828 million out of $1.95 billion (42.4 percent) in Year 2. The states receiving the least funding in Year 1 include Delaware ($1.02 million), Wyoming ($1.23 million), and New Hampshire ($1.6 million); the lowest funded states in Year 2 are New Hampshire ($1.27 million), Delaware ($1.57 million), and Vermont ($1.58 million).

In part, this distribution reflects differences in state populations. Consequently, examining the distribution on a per capita basis shows that Alaska, Kentucky, Puerto Rico, Mississippi, and New Mexico received the highest funding per capita in Year 1, and the District of Columbia joined the list in Year 2. States with overall low levels of per capita E-Rate funding include New Hampshire, Delaware, Maine, Wyoming, Iowa, Utah, and Colorado.

Exhibit V.5: E-Rate Funding By Enrollment Size: Public School Districts

Enrollment Size	National Percent of Total Students N=47.1 million	Total Commitments (Year 1) ($000)	Total Commitments (Year 2) ($000)	Commitments as a Percent of Total Year 1	Commitments as a Percent of Total Year 2
0 – 2,999	22.6%	$270,983	$289,158	20.5%	19.4%
3,000 – 7,999	22.4%	219,707	221,419	16.86%	14.8%
8,000 – 24,999	22.9%	278,603	288,063	21.1%	19.3%
25,000 or more	32.1%	553,827	695,424	41.9%	46.6%
Total	100.0%	$1,323,120	$1,494,063	100.0%	100.0%

Exhibit V.6: E-Rate Funding By Percent Minority: Public School Districts

Percent Minority	National Percent of Total Students N=46.8 million	Total Commitments (Year 1) ($000)	Total Commitments (Year 2) ($000)	Commitments as a Percent of Total Year 1	Commitments as a Percent of Total Year 2
Less than 5%	17.6%	$119,743	$124,944	9.1%	8.4%
5 to < 20%	23.1%	132,901	156,080	10.1%	10.5%
20 to < 50%	26.2%	240,503	244,720	18.3%	16.5%
50% or more	33.1%	822,39	959,843	62.5%	64.6%
Total	100.0%	$1,315,386	$1,485,587	100.0%	100.0%

Notes: As of January 4, 2000. National total number of students varies across tables due to missing data.
Data Source: The Schools and Libraries Division of the Universal Service Administrative Corporation and the U.S. Department of Education.

The observed variations also reflect differences in the local market cost of E-Rate-eligible equipment and services, and the extent to which institutions in different states obtain funding for different types of eligible services, especially the high-cost internal connections. For example, states with the highest levels of per capita funding for internal connections in Year 1 include Kentucky (the highest in Year 1 at $8,631 per 1,000 persons), Alabama, Georgia, New Mexico, and California; in Year 2, Illinois, Puerto Rico, and District of Columbia join the top five states (New Mexico is the highest in Year 2 at $13,154 per 1,000 persons). By comparison, the lowest per capita funding went to Delaware in Year 1 (at $19 per 1,000 persons) and to Nevada in Year 2 (at $68 per 1,000 persons). To a large degree these state differences appear to be related to the SLD funding formula, which favors states with high fractions of children in poverty and those with rural populations.

Another factor that may explain these variations is the fact that across the two funding years, 58 percent of all E-Rate funds were committed to support expenditures for internal connections, 34 percent went to telecommunications, and the remaining eight percent supported Internet access. Thus, those states that have well-developed infrastructure may be less able to obtain large amounts of E-Rate funding than those states where schools and libraries are at an earlier stage of technology development. In other words, the E-Rate program may be helping to build capacity among participants that lack existing infrastructure. This suggests that over time, as technology improves in the states that started late, funding patterns may converge somewhat.

Clearly, each state has its own story to tell, and what may be the case for public schools in a particular state may be different for the state's public libraries. To get a better understanding of these state-level differences will require more in-depth study of individual states than is possible with the data used in this report. At best we can point out the patterns and suggest avenues for further research.

Conclusion

During its first two years, the E-Rate program has provided close to $4 billion in funds to the nation's schools and libraries to support their efforts to expand access to 21st century information technology. Applications for the third year of the program have increased by more than 12 percent, and funding requests have dramatically increased to $4.72 billion, more than the total commitments made in the first two years combined. This growth clearly demonstrates the perceived importance of the E-Rate to its intended target audience.

During this time, E-Rate funds have been primarily committed to public districts and schools that account for about 85 percent of total awarded funds. In addition, about three-fourths of all districts and schools have applied for E-Rate, in contrast to about half of all public libraries and only 15 percent of private schools.

In addition, across all eligible entities, total E-Rate funds have been primarily used for internal connections, accounting for 58 percent of all E-Rate discounts. This is followed by telecommunications (34 percent) and Internet access (8 percent). Although internal connections do not generally have the highest application rates (they are typically higher for urban cities), the substantially higher cost of these services has led to average funding levels that substantially exceed those for other types of eligible services. This is despite the SLD's actions to restrict funding for internal connections in Year 1 to only the poorest communities.

The E-Rate is targeted at higher poverty communities, and for applicants with less than 50 percent poor students, the funding formula emphasizes rural areas. Based on the results of this analysis, the program's objectives are being met as application rates and overall total funding are higher for higher-poverty districts, schools, and libraries. One important finding, however, is that among school districts (which, as noted above, account for the largest segment of funded institutions) the most severely impoverished districts had somewhat lower application rates than would be expected. This may be due to limited knowledge of the E-Rate program, limited capacity to apply for E-Rate funds, limited funds for the co-payments, and/or limited technical expertise to use the purchased services in many high-poverty districts. In Year 2 application rates of these high-poverty districts did rise. This may be an indication that many of these districts have overcome these barriers.

A similar pattern is found in high-minority school districts. To many observers, this pattern may seem unsurprising, given that the E-Rate program provides much higher discounts to poor schools than to less poor ones and high-minority schools tend to be high-poverty schools. However, it might also have been the case that high-poverty schools were less prepared to take advantage of the E-Rate program. For this reason we might have expected to see them receiving lower funding commitments. The fact that the E-Rate funds are going disproportionately to high-poverty and high-minority school districts suggests that these districts did generally apply for substantial funds and that, therefore, the program may be helping to reduce potential increases in social inequality caused by the digital divide, as discussed in Chapter I.

In general, districts, schools, and libraries located in cities receive the largest share of total E-Rate funds and have the highest average levels of funding per student (or per capita in the case of libraries). For public school districts, there is no significant relationship between rates of application and urban location, but public and private schools, and libraries, located in cities have higher application rates.

Size is also an important determinant of which institutions apply for, and receive, E-Rate funds. Across all entity types, larger districts, schools, and libraries are more likely to apply for E-Rate—probably due to their increased technical and fiscal capacity—and when approved receive the greatest total amount of E-Rate funds and higher average funding per student (or person).

Unanswered Questions

While the findings from this early examination of the E-Rate are valuable, this analysis has probably raised more questions than it has answered leaving many questions open for further research. For example: How much has the E-Rate program increased total spending on technology? Does it appear that funding level differences between entities with different characteristics may converge somewhat in future years as those entities with less technology start to catch up? Are there interesting differences for specific types of entities of particular concern to policymakers, such as Bureau of Indian Affairs schools and those in empowerment zones. What are the difficulties facing smaller entities in their efforts to take advantage of the E-Rate program? More generally, why haven't application rates reached 100 percent yet, especially for the poorer entities with the highest discount rates? What explains the lower penetration of the program into the library and private school sectors? Why are there such large variations in application rates and funding levels among states? What explains the observed year-to-year differences?

These, and certainly many more, questions should be answered to help guide policymakers and SLD staff as they seek to improve the current operations of this critically important new federal initiative. This is especially true given the recent dramatic increase in both applications and funding requests that may have important programmatic and policy consequences.

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Appendix A: Detailed Tables

Appendix A
Detailed Tables

Table A.0
Table Numbers by Topic and Entity Type

	Entity Type				
Topic	Public Districts	Public Schools	Private Schools	Public Libraries	All Entities
Urban Location	1,2	31,32	49,50	59,60	
Size	3,4	33,34	51,52	61,62	
% Minority	5,6	35,36	53,54		
% Poverty	7,8	37,38		63,64	
State	9,10	39,40	55,56	65,66	
% Poverty*Urban Location	11,12	41,42		67,68	
Size*% Poverty	13,14	43,44		69,70	
Size*Urban Location	15,16	45,46	57,58	71,72	
% Poverty*% Minority	17,18	47,48			
$ by Service and Urban Location	19,20			73,74	
$ by Service and Size	21,22			75,76	
$ by Service and % Minority	23,24				
$ by Service and % Poverty	25,26			77,78	
$ by Service and State	27,28			79,80	83,84
Application by Service and State	29,30			81,82	
Total Funding by Service					85,86

Notes:

1) One table is prepared for each of 2 years, yielding two tables per cell
2) Funding information is only available at the BEN level (e.g., for districts, not schools)
3) Data are not available on the universe of private school districts
4) District and Library tables do include funding commitments
5) Data are not available on % minority for libraries or % poverty for private schools
6) All includes states and other consortia, as well as districts, schools, and libraries
7) Totals may not match across tables because of missing values

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Table A.1
Public School Districts
by Urban Location in Year 1
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total Commitments ($000)	Averages	
Urban Location	Districts n=15,614	Students n=46,354,816	Applying	Funded		per District ($000)	per Student ($)
City	8.10%	32.86%	0.72	0.97	$622,641	$918	$51
Urban Fringe	17.40%	29.45%	0.75	0.96	$227,382	$145	$23
Town	28.92%	23.30%	0.80	0.98	$249,301	$91	$32
Rural	45.59%	14.39%	0.76	0.98	$178,307	$46	$39
Total	100.00%	100.00%	0.76	0.98	$1,277,631	$144	$37

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) The city/urban fringe/town/rural terms are based on NCES definitions.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.2
School Districts
by Urban Location in Year 2
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total Commitments ($000)	Averages	
Urban Location	Districts n=15,614	Students n=46,354,816	Applying	Funded		per District ($000)	per Student ($)
City	8.10%	32.86%	0.75	0.98	$718,014	$1,021	$61
Urban Fringe	17.40%	29.45%	0.80	0.96	$278,811	$177	$28
Town	28.92%	23.30%	0.84	0.98	$266,381	$98	$35
Rural	45.59%	14.39%	0.83	0.97	$173,952	$44	$38
Total	100.00%	100.00%	0.82	0.97	$1,437,159	$160	$42

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) The city/urban fringe/town/rural terms are based on NCES definitions.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.3
Public School Districts
by Size in Year 1
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total	Averages	
Number of Students Enrolled	Districts n=15,964	Students n=47,054,014	Applying	Funded	Commitments ($000)	per District ($000)	per Student ($)
0 - 2999	79.42%	22.56%	0.71	0.98	$270,983	$42	$40
3000 - 7,999	13.99%	22.43%	0.88	0.98	$219,707	$140	$29
8,000 - 24,999	5.14%	22.93%	0.93	0.97	$278,603	$449	$34
25,000 or More	1.45%	32.08%	0.96	0.99	$553,827	$2,811	$44
Total	100.00%	100.00%	0.75	0.98	$1,323,120	$149	$38

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.4
Public School Districts
by Size in Year 2
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total Commitments ($000)	Averages	
Number of Students Enrolled	Districts n=15,964	Students n=47,054,014	Applying	Funded		per District ($000)	per Student ($)
0 - 2999	79.42%	22.56%	0.77	0.97	$289,158	$44	$42
3000 - 7,999	13.99%	22.43%	0.91	0.98	$221,419	$142	$30
8,000 - 24,999	5.14%	22.93%	0.91	0.98	$288,063	$472	$36
25,000 or More	1.45%	32.08%	0.97	0.99	$695,424	$3,548	$56
Total	100.00%	100.00%	0.80	0.97	$1,494,063	$166	$43

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.5
Public School Districts
by % Minority in Year 1
Fraction Applying, Funded, and Dollars Committed

% Minority	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total Commitments ($000)	Averages	
	Districts n=15,003	Students n=46,800,632	Applying	Funded		per District ($000)	per Student ($)
Less than 5%	43.98%	17.57%	0.80	0.98	$119,743	$32	$21
5 to < 20%	25.63%	23.14%	0.77	0.97	$132,901	$60	$17
20 to < 50%	17.39%	26.23%	0.76	0.98	$240,503	$152	$26
50% or More	13.00%	33.06%	0.74	0.98	$822,239	$711	$67
Total	100.00%	100.00%	0.78	0.98	$1,315,386	$151	$38

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.6
Public School Districts
by % Minority in Year 2
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total	Averages	
% Minority	Districts n=15,003	Students n=46,800,632	Applying	Funded	Commitments ($000)	per District ($000)	per Student ($)
Less than 5%	43.98%	17.57%	0.85	0.97	$124,944	$34	$23
5 to < 20%	25.63%	23.14%	0.83	0.97	$156,080	$69	$20
20 to < 50%	17.39%	26.23%	0.82	0.97	$244,720	$150	$27
50% or More	13.00%	33.06%	0.82	0.97	$959,843	$769	$80
Total	100.00%	100.00%	0.84	0.97	$1,485,587	$168	$43

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.7
Public School Districts
by SLD Poverty in Year 1
Fraction Applying, Funded, and Dollars Committed

Percent of Students Eligible for Free and Reduced Price Meals	National Totals % of Total		E-Rate Applications and Funding Commitments					
			Fractions of Districts		Total Commitments		Averages	
	Districts n=12,182	Students n=38,773,689	Applying	Funded	($000)	% of Total	per District ($000)	per Student ($)
Less than 1%	7.65%	1.12%	0.42	0.96	$17,777	1.6%	$81	$81
1 to < 20%	33.56%	30.10%	0.83	0.97	$85,800	7.9%	$35	$11
20 to <35%	27.12%	26.08%	0.83	0.98	$151,008	13.8%	$75	$20
35 to <50%	16.58%	15.84%	0.85	0.99	$181,360	16.6%	$135	$37
50 to <75%	11.37%	22.57%	0.81	0.99	$502,011	46.0%	$556	$73
75% or more	3.72%	4.29%	0.71	0.99	$152,948	14.0%	$656	$109
Total	100.00%	100.00%	0.79	0.98	$1,090,906	100.0%	$153	$38

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) SLD poverty cuts used here are based on CCD data which differ from the poverty data used to calculate E-Rate discounts.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.8
Public School Districts
by SLD Poverty in Year 2
Fraction Applying, Funded, and Dollars Committed

Percent of Students Eligible for Free and Reduced Price Meals	National Totals % of Total		E-Rate Applications and Funding Commitments					
			Fractions of Districts		Total Commitments		Averages	
	Districts n=12,182	Students n=38,773,689	Applying	Funded	($000)	% of Total	per District ($000)	per Student ($)
Less than 1%	7.65%	1.12%	0.43	0.94	$24,267	2.1%	$111	$106
1 to < 20%	33.56%	30.10%	0.85	0.97	$106,315	9.1%	$44	$13
20 to <35%	27.12%	26.08%	0.89	0.97	$180,121	15.4%	$86	$23
35 to <50%	16.58%	15.84%	0.89	0.98	$169,669	14.5%	$124	$35
50 to <75%	11.37%	22.57%	0.87	0.98	$530,623	45.5%	$544	$77
75% or more	3.72%	4.29%	0.79	0.99	$155,498	13.3%	$572	$108
Total	100.00%	100.00%	0.84	0.97	$1,166,494	100.0%	$159	$40

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per district and per student are only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of districts funded is out of those that applied.
(5) SLD poverty cuts used here are based on CCD data which differ from the poverty data used to calculate E-Rate discounts.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1999.

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Table A.9
Public School Districts
by State in Year 1
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total Commitments	Averages	
State	Districts n=16,555	Students n=47,054,014	Applying	Funded	($000)	per District ($000)	per Student ($)
Alabama	0.79%	1.57%	0.85	0.98	$45,479.03	$433.13	$70.24
Alaska	0.33%	0.28%	0.93	1.00	$13,387.56	$278.91	$103.53
Arizona	2.11%	1.73%	0.42	0.98	$33,665.63	$269.33	$58.01
Arkansas	2.00%	0.98%	0.95	1.00	$9,359.28	$48.49	$27.84
California	6.43%	12.17%	0.64	0.95	$200,188.19	$422.34	$51.05
Colorado	1.17%	1.46%	0.75	0.97	$12,845.82	$112.68	$22.81
Connecticut	1.15%	1.14%	0.81	0.94	$22,538.85	$166.95	$53.07
Delaware	0.15%	0.24%	0.88	0.95	$765.55	$36.45	$6.86
District of Columbia	0.01%	0.16%	1.00	1.00	$3,792.97	$3,792.97	$49.19
Florida	0.45%	4.88%	0.92	1.00	$43,053.34	$755.32	$19.83
Georgia	1.09%	2.92%	1.00	1.00	$36,863.18	$279.27	$34.12
Hawaii	0.01%	0.40%	1.00	1.00	$5,309.16	$5,309.16	$27.96
Idaho	0.68%	0.52%	0.65	0.96	$4,371.23	$64.28	$22.47
Illinois	6.36%	4.84%	0.54	0.93	$71,433.12	$146.68	$44.15
Indiana	1.98%	2.09%	0.91	1.00	$14,201.51	$72.46	$20.99
Iowa	2.48%	1.07%	0.93	0.99	$6,479.96	$22.19	$16.73
Kansas	1.84%	1.00%	0.77	0.97	$9,585.14	$43.57	$26.35
Kentucky	1.57%	1.41%	0.68	1.00	$46,841.18	$266.14	$70.38
Louisiana	0.43%	1.65%	0.92	1.00	$37,000.02	$606.56	$49.40
Maine	1.98%	0.45%	0.37	0.95	$2,384.14	$25.64	$22.12
Maryland	0.14%	1.77%	0.96	0.96	$9,649.14	$438.60	$12.83
Massachusetts	2.81%	2.02%	0.75	0.99	$22,050.49	$100.23	$29.69
Michigan	4.48%	3.58%	0.78	0.97	$53,539.25	$114.89	$38.95
Minnesota	2.88%	1.81%	0.77	0.99	$16,490.93	$74.96	$30.30
Mississippi	0.99%	1.08%	0.95	1.00	$19,604.44	$156.84	$45.43
Missouri	3.21%	1.94%	0.98	1.00	$18,198.84	$73.98	$28.74
Montana	3.36%	0.34%	0.42	0.94	$3,245.04	$22.08	$44.43
Nebraska	4.69%	0.62%	0.57	0.99	$3,253.43	$14.52	$17.49
Nevada	0.11%	0.63%	0.78	1.00	$5,152.04	$368.00	$17.80
New Hampshire	1.50%	0.43%	0.46	0.91	$1,222.29	$17.71	$14.06
New Jersey	3.75%	2.64%	0.61	0.90	$55,044.63	$181.07	$70.03
New Mexico	0.54%	0.70%	0.88	1.00	$16,258.66	$239.10	$57.70
New York	4.50%	6.08%	0.92	1.00	$37,256.21	$76.50	$26.98
North Carolina	0.95%	2.62%	0.66	1.00	$20,597.87	$228.87	$23.45
North Dakota	1.71%	0.25%	0.58	0.99	$1,956.58	$14.08	$21.99
Ohio	4.74%	3.98%	0.85	0.97	$46,002.42	$98.51	$31.73
Oklahoma	3.32%	1.33%	0.73	0.99	$30,096.66	$78.79	$62.65
Oregon	1.35%	1.15%	0.76	1.00	$7,614.67	$59.96	$17.40
Pennsylvania	3.75%	3.86%	0.83	0.98	$31,660.26	$82.45	$23.20
Puerto Rico	0.01%	1.31%	1.00	1.00	$46,222.68	$46,222.68	$74.98
Rhode Island	0.22%	0.33%	1.00	1.00	$4,621.96	$288.87	$53.28
South Carolina	0.66%	1.38%	0.88	1.00	$19,487.53	$266.95	$38.10
South Dakota	1.33%	0.30%	0.66	0.98	$2,536.94	$20.97	$24.83
Tennessee	0.85%	1.84%	0.99	1.00	$26,110.90	$194.86	$31.37
Texas	6.41%	8.27%	0.70	0.95	$119,705.06	$233.34	$45.31
Utah	0.28%	1.02%	0.89	0.98	$3,382.50	$89.01	$8.03
Vermont	2.10%	0.23%	0.65	0.99	$1,454.65	$11.36	$33.56
Virginia	1.01%	2.36%	0.83	1.00	$17,839.10	$156.48	$21.85
Washington	1.84%	2.11%	0.98	1.00	$25,275.71	$123.30	$31.67
West Virginia	0.34%	0.64%	0.98	1.00	$6,791.58	$121.28	$22.56
Wisconsin	2.68%	1.87%	0.78	0.98	$34,214.05	$115.20	$52.40
Wyoming	0.37%	0.21%	0.51	0.94	$1,088.81	$43.55	$25.34
Other	0.10%	0.33%	0.13	1.00			
Total	100.00%	100.00%	0.73	0.98	$1,327,170.20	$148.77	$37.78

NOTES:

(1) This table provides information on funding commitments made by January 4, 2000.

(2) $ per district and per student are only for districts that received funding directly.

(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).

(4) Fraction of districts funded is out of those that applied.

(5) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.

(6) Other is missing funding per student because no school or district applied directly and was funded, though some did apply indirectly.

(7) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate information from the Schools and Libraries Division of the Universal Service Administrative Company.

School District data from the U.S. Department of Education's Common Core of Data for 1997-1998.

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Table A.10
Public School Districts
by State in Year 2
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Districts		Total Commitments ($000)	Averages	
State	Districts n=16,555	Students n=47,054,014	Applying	Funded		per District ($000)	per Student ($)
Alabama	0.79%	1.57%	0.89	0.97	$24,961.52	$237.73	$43.46
Alaska	0.33%	0.28%	0.93	1.00	$11,996.64	$249.93	$92.73
Arizona	2.11%	1.73%	0.55	0.90	$35,287.88	$240.05	$74.58
Arkansas	2.00%	0.98%	0.95	1.00	$7,035.17	$32.42	$21.06
California	6.43%	12.17%	0.66	0.96	$236,844.66	$476.55	$58.31
Colorado	1.17%	1.46%	0.79	0.98	$9,344.54	$74.76	$16.37
Connecticut	1.15%	1.14%	0.76	0.93	$30,246.49	$272.49	$79.19
Delaware	0.15%	0.24%	0.88	1.00	$644.71	$29.31	$5.76
District of Columbia	0.01%	0.16%	1.00	1.00	$2,015.48	$2,015.48	$26.14
Florida	0.45%	4.88%	0.95	0.99	$60,116.98	$1,054.68	$28.20
Georgia	1.09%	2.92%	0.99	1.00	$58,371.58	$432.38	$50.72
Hawaii	0.01%	0.40%	1.00	1.00	$4,453.96	$4,453.96	$23.46
Idaho	0.68%	0.52%	0.71	0.98	$4,952.43	$66.03	$23.83
Illinois	6.36%	4.84%	0.83	0.99	$149,845.10	$329.33	$94.82
Indiana	1.98%	2.09%	0.91	1.00	$15,102.50	$87.30	$25.33
Iowa	2.48%	1.07%	0.92	0.98	$7,318.98	$27.83	$19.16
Kansas	1.84%	1.00%	0.84	0.92	$12,896.03	$56.81	$34.05
Kentucky	1.57%	1.41%	0.79	1.00	$53,223.01	$309.44	$81.79
Louisiana	0.43%	1.65%	0.86	1.00	$34,767.91	$589.29	$48.37
Maine	1.98%	0.45%	0.55	0.96	$3,029.91	$22.44	$22.83
Maryland	0.14%	1.77%	0.92	1.00	$16,360.39	$743.65	$20.83
Massachusetts	2.81%	2.02%	0.74	1.00	$15,284.58	$74.56	$22.90
Michigan	4.48%	3.58%	0.78	0.98	$72,354.07	$157.29	$53.47
Minnesota	2.88%	1.81%	0.80	0.96	$21,638.31	$96.60	$33.26
Mississippi	0.99%	1.08%	0.96	1.00	$22,994.74	$169.08	$49.73
Missouri	3.21%	1.94%	0.98	1.00	$16,131.10	$56.21	$22.53
Montana	3.36%	0.34%	0.48	0.94	$2,951.19	$17.16	$40.47
Nebraska	4.69%	0.62%	0.56	0.98	$4,572.28	$18.82	$21.57
Nevada	0.11%	0.63%	0.83	0.87	$1,669.56	$151.78	$6.22
New Hampshire	1.50%	0.43%	0.40	0.94	$1,028.97	$15.13	$11.32
New Jersey	3.75%	2.64%	0.61	0.90	$35,874.17	$127.67	$45.87
New Mexico	0.54%	0.70%	0.75	0.94	$25,434.28	$431.09	$104.32
New York	4.50%	6.08%	0.96	1.00	$53,079.34	$111.98	$39.66
North Carolina	0.95%	2.62%	0.71	0.98	$25,171.50	$296.14	$29.43
North Dakota	1.71%	0.25%	0.61	0.96	$1,658.07	$12.47	$19.67
Ohio	4.74%	3.98%	0.82	0.99	$33,454.57	$84.06	$26.25
Oklahoma	3.32%	1.33%	0.90	0.96	$30,100.48	$65.58	$54.76
Oregon	1.35%	1.15%	0.87	0.95	$8,125.35	$60.19	$19.24
Pennsylvania	3.75%	3.86%	0.82	0.97	$25,687.44	$66.89	$23.09
Puerto Rico	0.01%	1.31%	1.00	1.00	$57,361.49	$57,361.49	$93.05
Rhode Island	0.22%	0.33%	1.00	1.00	$4,998.09	$192.23	$42.57
South Carolina	0.66%	1.38%	0.91	1.00	$20,736.90	$334.47	$40.44
South Dakota	1.33%	0.30%	0.72	0.96	$1,821.59	$15.31	$21.46
Tennessee	0.85%	1.84%	0.99	1.00	$43,981.11	$330.69	$52.75
Texas	6.41%	8.27%	0.84	0.97	$123,419.00	$202.99	$42.28
Utah	0.28%	1.02%	0.87	1.00	$1,984.34	$56.70	$4.77
Vermont	2.10%	0.23%	0.57	0.96	$1,287.14	$8.94	$25.12
Virginia	1.01%	2.36%	0.83	1.00	$12,209.50	$123.33	$19.81
Washington	1.84%	2.11%	0.99	0.83	$28,714.91	$138.72	$37.31
West Virginia	0.34%	0.64%	0.98	1.00	$5,989.15	$106.95	$19.89
Wisconsin	2.68%	1.87%	0.89	0.99	$18,442.28	$65.17	$29.07
Wyoming	0.37%	0.21%	0.82	1.00	$1,559.62	$59.99	$24.56
Other	0.10%	0.33%	0.19	1.00	$81.09	$81.09	$8.77
Total	100.00%	100.00%	0.78	0.97	$1,498,612.09	$165.30	$43.16

NOTES:

(1) This table provides information on funding commitments made by January 4, 2000.

(2) $ per district and per student are only for districts that received funding directly.

(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).

(4) Fraction of districts funded is out of those that applied.

(5) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.

(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate information from the Schools and Libraries Division of the Universal Service Administrative Company.

School District data from the U.S. Department of Education's Common Core of Data for 1997-1998.

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Table A.11
Public School Districts
by SLD Poverty and Urban Location in Year 1
Fraction Applying and Dollars Committed per Student

Percent of Students Eligible for Free and Reduced Price Meals		Urban Location				
		City	Urban Fringe	Town	Rural	Total
Less than 1%	Fraction	0.47	0.58	0.46	0.34	0.42
	$ per Student	*$119.62*	*$68.89*	*$58.40*	*$97.89*	*$80.83*
1 to < 20%	Fraction	0.77	0.80	0.84	0.85	0.83
	$ per Student	*$13.47*	*$9.66*	*$10.42*	*$12.73*	*$10.77*
20 to <35%	Fraction	0.88	0.80	0.86	0.82	0.83
	$ per Student	*$13.40*	*$18.76*	*$21.94*	*$31.80*	*$20.30*
35 to <50%	Fraction	0.89	0.85	0.89	0.82	0.85
	$ per Student	*$30.47*	*$24.26*	*$43.39*	*$53.69*	*$36.79*
50 to <75%	Fraction	0.85	0.85	0.84	0.77	0.81
	$ per Student	*$72.50*	*$72.56*	*$65.20*	*$97.43*	*$73.40*
75% or more	Fraction	0.61	0.76	0.76	0.70	0.71
	$ per Student	*$189.40*	*$85.64*	*$115.42*	*$81.21*	*$135.50*
Total	Fraction	0.79	0.79	0.83	0.78	0.79
	$ per Student	*$50.22*	*$23.78*	*$32.34*	*$39.58*	*$37.07*

NOTES:

(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998

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Table A.12
Public School Districts
by SLD Poverty and Urban Location in Year 2
Fraction Applying and Dollars Committed per Student

Percent of Students Eligible for Free and Reduced Price Meals		Urban Location City	Urban Fringe	Town	Rural	Total
Less than 1%	Fraction	0.44	0.59	0.36	0.41	0.43
	$ per Student	*$130.70*	*$102.25*	*$73.96*	*$110.35*	*$106.03*
1 to < 20%	Fraction	0.79	0.81	0.87	0.87	0.85
	$ per Student	*$11.71*	*$11.87*	*$15.26*	*$17.08*	*$13.46*
20 to <35%	Fraction	0.89	0.85	0.91	0.88	0.89
	$ per Student	*$17.71*	*$23.88*	*$25.34*	*$29.52*	*$23.48*
35 to <50%	Fraction	0.88	0.89	0.90	0.88	0.89
	$ per Student	*$31.05*	*$30.62*	*$39.57*	*$42.59*	*$35.11*
50 to <75%	Fraction	0.90	0.87	0.89	0.86	0.87
	$ per Student	*$80.69*	*$65.70*	*$69.91*	*$86.62*	*$77.41*
75% or more	Fraction	0.57	0.86	0.84	0.80	0.79
	$ per Student	*$113.38*	*$190.82*	*$88.49*	*$86.90*	*$118.58*
Total	Fraction	0.80	0.81	0.86	0.84	0.84
	$ per Student	*$51.93*	*$28.67*	*$34.09*	*$38.00*	*$39.17*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.13
Public School Districts
by Poverty and District Size in Year 1
Fraction Applying and Dollars Committed per Student

Percent of Students Eligible for Free and Reduced Price Meals		Number of Students Enrolled				
		0 - 2,999	3,000 - 7,999	8,000 - 24,999	25,000 or More	Total
Less than 1%	Fraction	0.41	0.76	1.00	.	0.43
	$ per Student	*$104.46*	*$26.08*	*$72.20*	.	*$80.80*
1 to < 20%	Fraction	0.81	0.87	0.91	0.91	0.83
	$ per Student	*$13.24*	*$9.70*	*$10.23*	*$9.58*	*$10.76*
20 to <35%	Fraction	0.82	0.86	0.92	0.96	0.83
	$ per Student	*$32.30*	*$20.87*	*$17.29*	*$14.98*	*$20.23*
35 to <50%	Fraction	0.82	0.91	0.96	0.95	0.85
	$ per Student	*$55.83*	*$42.60*	*$33.38*	*$24.70*	*$36.79*
50 to <75%	Fraction	0.76	0.93	0.92	0.98	0.81
	$ per Student	*$98.52*	*$78.60*	*$94.75*	*$63.21*	*$73.40*
75% or more	Fraction	0.67	0.91	1.00	1.00	0.71
	$ per Student	*$137.49*	*$99.56*	*$90.19*	*$110.01*	*$108.93*
Total	Fraction	0.77	0.88	0.93	0.96	0.80
	$ per Student	*$40.35*	*$30.86*	*$34.85*	*$42.10*	*$37.86*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.14
Public School Districts
by Poverty and District Size in Year 2
Fraction Applying and Dollars Committed per Student

Percent of Students Eligible for Free and Reduced Price Meals		Number of Students Enrolled				
		0 - 2,999	3,000 - 7,999	8,000 - 24,999	25,000 or More	Total
Less than 1%	Fraction	0.42	0.76	1.00	.	0.43
	$ per Student	*$148.99*	*$38.10*	*$60.67*	.	*$105.98*
1 to < 20%	Fraction	0.84	0.90	0.89	0.93	0.85
	$ per Student	*$18.11*	*$13.52*	*$11.41*	*$9.95*	*$13.46*
20 to <35%	Fraction	0.88	0.90	0.94	0.96	0.89
	$ per Student	*$33.80*	*$25.25*	*$19.25*	*$19.65*	*$23.43*
35 to <50%	Fraction	0.87	0.91	0.94	0.95	0.89
	$ per Student	*$49.09*	*$42.18*	*$28.98*	*$27.58*	*$35.11*
50 to <75%	Fraction	0.84	0.96	0.91	1.00	0.88
	$ per Student	*$90.58*	*$63.23*	*$99.26*	*$72.47*	*$77.41*
75% or more	Fraction	0.76	0.91	1.00	1.00	0.79
	$ per Student	*$130.34*	*$82.10*	*$91.51*	*$111.00*	*$107.68*
Total	Fraction	0.81	0.91	0.92	0.97	0.84
	$ per Student	*$42.93*	*$31.04*	*$35.52*	*$46.77*	*$40.30*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.15
Public School Districts
by Size and Urban Location in Year 1
Fraction Applying and Dollars Committed per Student

Number of Students Enrolled		Urban Location				Total
		City	Urban Fringe	Town	Rural	
0 - 2,999	Fraction	0.56	0.67	0.78	0.76	0.74
	$ per Student	*$59.06*	*$34.44*	*$33.75*	*$45.74*	*$39.42*
3,000 - 7,999	Fraction	0.89	0.85	0.90	0.91	0.88
	$ per Student	*$50.01*	*$20.95*	*$29.99*	*$32.23*	*$29.42*
8,000 - 24,999	Fraction	0.94	0.89	0.98	0.95	0.93
	$ per Student	*$49.00*	*$24.56*	*$31.04*	*$26.49*	*$34.05*
25,000 or More	Fraction	0.99	0.91	1.00	0.83	0.96
	$ per Student	*$51.65*	*$19.51*	*$23.76*	*$7.88*	*$42.25*
Total	Fraction	0.74	0.76	0.81	0.77	0.78
	$ per Student	*$51.12*	*$23.09*	*$31.48*	*$38.57*	*$36.97*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.16
Public School Districts
by Size and Urban Location in Year 2
Fraction Applying and Dollars Committed per Student

Number of Students Enrolled		Urban Location				Total
		City	Urban Fringe	Town	Rural	
0 - 2,999	Fraction	0.60	0.74	0.82	0.83	0.80
	$ per Student	*$59.99*	*$43.74*	*$36.51*	*$45.32*	*$42.02*
3,000 - 7,999	Fraction	0.91	0.89	0.93	0.94	0.92
	$ per Student	*$39.40*	*$28.08*	*$28.62*	*$31.09*	*$29.95*
8,000 - 24,999	Fraction	0.93	0.89	0.93	0.97	0.92
	$ per Student	*$45.47*	*$25.07*	*$42.47*	*$26.54*	*$35.73*
25,000 or More	Fraction	0.99	0.96	1.00	0.67	0.97
	$ per Student	*$67.70*	*$24.87*	*$25.89*	*$5.05*	*$54.07*
Total	Fraction	0.77	0.81	0.85	0.84	0.83
	$ per Student	*$60.59*	*$27.69*	*$34.56*	*$38.39*	*$42.09*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.17
Public School Districts
by Poverty and Percent Minority in Year 1
Fraction Applying and Dollars Committed per Student

Percent of Students Eligible for Free and Reduced Price Meals		Percent Minority				
		Less than 5 %	5 to < 20%	20 to < 50%	50 % or More	Total
Less than 1%	Fraction	0.38	0.56	0.46	0.40	0.43
	$ per Student	*$25.15*	*$36.23*	*$157.81*	*$136.95*	*$80.87*
1 to < 20%	Fraction	0.87	0.79	0.73	0.76	0.83
	$ per Student	*$10.31*	*$9.90*	*$12.56*	*$16.17*	*$10.79*
20 to <35%	Fraction	0.87	0.82	0.79	0.70	0.83
	$ per Student	*$27.97*	*$20.41*	*$17.70*	*$18.97*	*$20.24*
35 to <50%	Fraction	0.88	0.82	0.85	0.81	0.85
	$ per Student	*$45.15*	*$44.42*	*$35.04*	*$34.37*	*$36.65*
50 to <75%	Fraction	0.80	0.66	0.82	0.84	0.81
	$ per Student	*$94.73*	*$64.38*	*$66.73*	*$73.51*	*$73.40*
75% or more	Fraction	0.59	0.59	0.55	0.75	0.71
	$ per Student	*$86.25*	*$94.64*	*$151.53*	*$108.83*	*$108.93*
Total	Fraction	0.82	0.78	0.78	0.77	0.80
	$ per Student	*$22.14*	*$17.27*	*$26.28*	*$65.91*	*$37.98*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.18
Public School Districts
by Poverty and Percent Minority in Year 2
Fraction Applying and Dollars Committed per Student

Percent of Students Eligible for Free and Reduced Price Meals		Percent Minority				
		Less than 5 %	5 to < 20%	20 to < 50%	50 % or More	Total
Less than 1%	Fraction	0.37	0.57	0.49	0.45	0.43
	$ per Student	*$28.07*	*$26.71*	*$307.37*	*$138.47*	*$105.83*
1 to < 20%	Fraction	0.89	0.82	0.77	0.69	0.85
	$ per Student	*$14.16*	*$12.43*	*$14.35*	*$15.60*	*$13.51*
20 to <35%	Fraction	0.90	0.89	0.86	0.84	0.89
	$ per Student	*$27.18*	*$23.54*	*$19.61*	*$29.21*	*$23.39*
35 to <50%	Fraction	0.90	0.87	0.88	0.90	0.89
	$ per Student	*$45.69*	*$36.24*	*$32.00*	*$36.26*	*$35.01*
50 to <75%	Fraction	0.85	0.81	0.88	0.89	0.87
	$ per Student	*$97.30*	*$73.62*	*$56.45*	*$79.04*	*$77.42*
75% or more	Fraction	0.63	0.68	0.55	0.84	0.79
	$ per Student	*$85.59*	*$174.52*	*$178.74*	*$107.47*	*$107.68*
Total	Fraction	0.84	0.83	0.83	0.84	0.84
	$ per Student	*$24.68*	*$19.28*	*$26.46*	*$69.82*	*$40.44*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.19
Public School Districts
by Urban Location and Type of Service in Year 1
Fraction Applying and Dollars Committed per Student

			Type of Service		
Urban Location		Telecom & Dedicated Services	Internal Connections	Internet Access	Total
City	Fraction	0.66	0.61	0.52	0.72
	$ per Student	*$16.72*	*$47.91*	*$2.86*	*$51.11*
Urban Fringe	Fraction	0.68	0.60	0.46	0.75
	$ per Student	*$11.54*	*$28.65*	*$2.80*	*$23.00*
Town	Fraction	0.73	0.64	0.59	0.80
	$ per Student	*$12.60*	*$41.87*	*$4.13*	*$31.57*
Rural	Fraction	0.69	0.57	0.55	0.76
	$ per Student	*$17.62*	*$49.80*	*$7.21*	*$38.59*
Total	Fraction	0.70	0.60	0.54	0.76
	$ per Student	*$14.44*	*$42.77*	*$3.64*	*$36.96*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly for the specified service.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.20
Public School Districts
by Urban Location and Type of Service in Year 2
Fraction Applying and Dollars Committed per Student

		Type of Service			
Urban Location		Telecom & Dedicated Services	Internal Connections	Internet Access	Total
City	Fraction	0.73	0.49	0.60	0.75
	$ per Student	*$13.77*	*$60.95*	*$2.67*	*$60.60*
Urban Fringe	Fraction	0.77	0.43	0.64	0.80
	$ per Student	*$10.19*	*$30.68*	*$2.62*	*$27.73*
Town	Fraction	0.82	0.50	0.70	0.84
	$ per Student	*$11.16*	*$41.12*	*$4.41*	*$34.71*
Rural	Fraction	0.80	0.47	0.68	0.83
	$ per Student	*$15.26*	*$42.25*	*$7.05*	*$38.43*
Total	Fraction	0.79	0.47	0.67	0.82
	$ per Student	*$12.35*	*$46.94*	*$3.54*	*$42.14*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly for the specified service.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.21
Public School Districts
by Size and Type of Service in Year 1
Fraction Applying and Dollars Committed per Student

Number of Students Enrolled		Type of Service: Telecom & Dedicated Services	Type of Service: Internal Connections	Type of Service: Internet Access	Total
0 - 2,999	Fraction	0.64	0.54	0.50	0.71
	$ per Student	*$18.54*	*$57.05*	*$7.11*	*$39.49*
3,000 - 7,999	Fraction	0.80	0.73	0.65	0.88
	$ per Student	*$11.85*	*$49.01*	*$4.12*	*$29.42*
8,000 - 24,999	Fraction	0.86	0.81	0.68	0.93
	$ per Student	*$12.35*	*$45.34*	*$2.56*	*$33.99*
25,000 or More	Fraction	0.93	0.90	0.73	0.96
	$ per Student	*$17.12*	*$34.98*	*$2.39*	*$43.76*
Total	Fraction	0.68	0.58	0.53	0.75
	$ per Student	*$15.19*	*$41.96*	*$3.52*	*$37.60*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly for the specified service.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.22
Public School Districts
by Size and Type of Service in Year 2
Fraction Applying and Dollars Committed per Student

Number of Students Enrolled		Type of Service Telecom & Dedicated Services	Internal Connections	Internet Access	Total
0 - 2,999	Fraction	0.75	0.43	0.62	0.77
	$ per Student	*$16.33*	*$49.81*	*$6.96*	*$42.21*
3,000 - 7,999	Fraction	0.88	0.54	0.76	0.91
	$ per Student	*$10.46*	*$36.16*	*$4.29*	*$29.95*
8,000 - 24,999	Fraction	0.89	0.62	0.79	0.91
	$ per Student	*$9.91*	*$42.20*	*$3.51*	*$35.73*
25,000 or More	Fraction	0.96	0.84	0.84	0.97
	$ per Student	*$13.37*	*$53.41*	*$2.11*	*$56.01*
Total	Fraction	0.78	0.46	0.66	0.80
	$ per Student	*$12.56*	*$47.38*	*$3.63*	*$43.03*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly for the specified service.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.23
Public School Districts
by Percent Minority and Type of Service in Year 1
Fraction Applying and Dollars Committed per Student

		Type of Service			
Percent Minority		Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Less than 5%	Fraction	0.73	0.61	0.61	0.80
	$ per Student	*$11.98*	*$35.77*	*$4.43*	*$20.77*
5 to < 20%	Fraction	0.71	0.60	0.52	0.77
	$ per Student	*$10.86*	*$22.99*	*$2.91*	*$17.14*
20 to < 50%	Fraction	0.71	0.60	0.52	0.76
	$ per Student	*$12.55*	*$25.49*	*$3.05*	*$25.93*
50% or More	Fraction	0.67	0.64	0.51	0.74
	$ per Student	*$21.62*	*$53.27*	*$3.84*	*$67.38*
Total	Fraction	0.71	0.61	0.56	0.78
	$ per Student	*$15.15*	*$41.94*	*$3.51*	*$37.59*

NOTES:

(1) This table provides information on funding commitments made by January 4, 2000.

(2) $ per student is only for districts that received funding directly for the specified service.

(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).

(4) Dedicated Services refers to telecommunication services that are specific to a school or library.

(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.

School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.24
Public School Districts
by Percent Minority and Type of Service in Year 2
Fraction Applying and Dollars Committed per Student

			Type of Service		
Percent Minority		Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Less than 5%	Fraction	0.82	0.44	0.71	0.85
	$ per Student	*$10.07*	*$27.18*	*$4.78*	*$22.73*
5 to < 20%	Fraction	0.81	0.46	0.69	0.83
	$ per Student	*$9.04*	*$22.07*	*$3.41*	*$20.13*
20 to < 50%	Fraction	0.80	0.52	0.66	0.82
	$ per Student	*$10.47*	*$27.27*	*$3.06*	*$26.56*
50% or More	Fraction	0.79	0.62	0.66	0.82
	$ per Student	*$17.47*	*$69.88*	*$3.71*	*$79.67*
Total	Fraction	0.81	0.48	0.69	0.84
	$ per Student	*$12.51*	*$47.40*	*$3.61*	*$43.04*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly for the specified service.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.25
Public School Districts
by Poverty and Type of Service in Year 1

Percent of Students Eligible for Free and Reduced Price Meals		Type of Service Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Less than 1%	Fraction	0.39	0.28	0.27	0.42
	$ per Student	*$59.51*	*$88.35*	*$15.54*	*$80.77*
1 to < 20%	Fraction	0.76	0.65	0.59	0.83
	$ per Student	*$9.35*	*$6.30*	*$2.20*	*$10.75*
20 to <35%	Fraction	0.76	0.65	0.61	0.83
	$ per Student	*$11.71*	*$17.08*	*$3.04*	*$20.27*
35 to <50%	Fraction	0.76	0.66	0.60	0.85
	$ per Student	*$14.11*	*$32.60*	*$3.87*	*$36.74*
50 to <75%	Fraction	0.74	0.69	0.61	0.81
	$ per Student	*$20.56*	*$56.19*	*$4.61*	*$73.23*
75% or more	Fraction	0.62	0.62	0.49	0.71
	$ per Student	*$40.31*	*$75.44*	*$2.00*	*$108.92*
Total	Fraction	0.73	0.63	0.57	0.79
	$ per Student	*$15.18*	*$40.80*	*$3.39*	*$37.81*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly for the specified service.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.26
Public School Districts
by Poverty and Type of Service in Year 2

Percent of Students Eligible for Free and Reduced Price Meals		Type of Service Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Less than 1%	Fraction	0.42	0.19	0.31	0.43
	$ per Student	*$55.06*	*$102.50*	*$15.60*	*$106.03*
1 to < 20%	Fraction	0.82	0.41	0.69	0.85
	$ per Student	*$7.69*	*$14.05*	*$2.04*	*$13.46*
20 to <35%	Fraction	0.86	0.55	0.72	0.89
	$ per Student	*$10.26*	*$22.05*	*$2.93*	*$23.48*
35 to <50%	Fraction	0.86	0.63	0.74	0.89
	$ per Student	*$12.07*	*$31.19*	*$4.34*	*$35.11*
50 to <75%	Fraction	0.86	0.67	0.72	0.87
	$ per Student	*$17.27*	*$65.09*	*$4.09*	*$77.41*
75% or more	Fraction	0.77	0.62	0.63	0.79
	$ per Student	*$23.02*	*$84.77*	*$5.52*	*$107.68*
Total	Fraction	0.81	0.51	0.68	0.84
	$ per Student	*$12.49*	*$42.32*	*$3.61*	*$40.32*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per student is only for districts that received funding directly for the specified service.
(3) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
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School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.27
Public School Districts
by State and Type of Service in Year 1
Dollars Committed Per Student

	Type of Service			
State	Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Alabama	$12.69	$77.35	$5.65	$70.24
Alaska	$70.27	$35.25	$19.41	$103.53
Arizona	$14.69	$69.57	$17.74	$58.01
Arkansas	$12.35	$29.55	$7.00	$27.84
California	$15.17	$48.84	$2.18	$50.99
Colorado	$13.97	$14.77	$2.48	$22.80
Connecticut	$19.63	$133.18	$4.55	$53.06
Delaware	$6.77	$4.98	$0.00	$6.86
District of Columbia	$35.70	$12.46	$1.03	$49.19
Florida	$10.85	$14.35	$2.06	$19.83
Georgia	$12.15	$25.61	$3.24	$34.11
Hawaii	$4.22	$20.25	$3.49	$27.96
Idaho	$10.94	$35.51	$2.14	$22.47
Illinois	$14.93	$63.44	$2.51	$44.10
Indiana	$12.45	$26.00	$3.66	$20.90
Iowa	$10.77	$19.90	$3.73	$16.69
Kansas	$20.28	$11.95	$5.09	$26.35
Kentucky	$20.01	$59.73	$5.31	$70.38
Louisiana	$10.21	$42.10	$4.68	$49.40
Maine	$14.39	$20.30	$4.95	$22.04
Maryland	$8.95	$5.24	$1.99	$12.79
Massachusetts	$12.45	$53.58	$2.76	$29.61
Michigan	$18.52	$53.14	$4.88	$38.90
Minnesota	$15.00	$42.07	$1.42	$30.30
Mississippi	$17.12	$35.88	$5.70	$45.41
Missouri	$17.10	$31.43	$10.04	$28.74
Montana	$27.63	$40.55	$8.54	$44.43
Nebraska	$15.34	$9.42	$2.47	$17.42
Nevada	$12.39	$7.53	$0.69	$17.80
New Hampshire	$12.99	$8.31	$2.45	$14.06
New Jersey	$20.54	$149.05	$3.03	$69.98
New Mexico	$20.53	$44.48	$3.43	$57.70
New York	$17.12	$56.12	$3.43	$26.87
North Carolina	$11.83	$15.68	$2.78	$23.43
North Dakota	$11.86	$32.26	$3.87	$21.99
Ohio	$10.76	$72.99	$2.48	$31.63
Oklahoma	$15.56	$59.97	$10.36	$62.72
Oregon	$11.88	$16.94	$4.89	$17.40
Pennsylvania	$12.94	$32.90	$3.16	$23.16
Puerto Rico	$55.56	$19.14	$0.29	$74.98
Rhode Island	$10.93	$92.43	$1.41	$53.28
South Carolina	$13.19	$34.22	$9.48	$38.05
South Dakota	$14.04	$48.24	$5.81	$24.75
Tennessee	$17.57	$32.09	$0.17	$31.37
Texas	$15.31	$49.30	$2.85	$45.16
Utah	$5.62	$16.21	$2.65	$8.03
Vermont	$25.59	$23.20	$11.24	$33.34
Virginia	$13.05	$28.79	$2.77	$21.20
Washington	$14.93	$44.62	$2.86	$31.27
West Virginia	$8.95	$7.91	$7.18	$22.52
Wisconsin	$17.40	$92.99	$2.49	$52.36
Wyoming	$14.66	$22.84	$3.83	$25.34
Other	.	$0.00	$0.00	$0.00
US Average	$15.28	$42.01	$3.54	$37.72

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
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(3) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.
(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School, School District, and Library data come from the U.S. Department of Education's Common Core of Data
for 1997-1998.

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Table A.28
Public School Districts
by State and Type of Service in Year 2
Dollars Committed Per Student

	Type of Service			
State	Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Alabama	$11.56	$37.31	$7.31	$43.46
Alaska	$60.99	$36.20	$12.30	$92.73
Arizona	$14.58	$92.38	$4.14	$74.58
Arkansas	$11.22	$21.25	$6.12	$21.06
California	$12.02	$60.57	$3.69	$58.31
Colorado	$9.38	$9.08	$1.72	$16.37
Connecticut	$15.42	$138.98	$4.95	$79.19
Delaware	$5.76	$0.00	$0.00	$5.76
District of Columbia	$25.46	$0.00	$0.67	$26.14
Florida	$11.42	$21.71	$2.33	$28.20
Georgia	$9.98	$54.93	$2.72	$50.72
Hawaii	$6.91	$15.58	$0.97	$23.46
Idaho	$8.64	$32.93	$2.36	$23.83
Illinois	$13.04	$129.90	$1.82	$94.82
Indiana	$8.73	$38.37	$5.37	$25.33
Iowa	$8.17	$17.62	$3.21	$19.16
Kansas	$11.83	$41.23	$4.48	$34.05
Kentucky	$17.43	$64.29	$3.57	$81.79
Louisiana	$12.69	$37.02	$5.26	$48.37
Maine	$12.68	$15.73	$8.12	$22.83
Maryland	$9.23	$15.57	$0.90	$20.83
Massachusetts	$12.38	$17.33	$2.35	$22.90
Michigan	$14.86	$64.87	$6.91	$53.47
Minnesota	$12.66	$33.00	$1.83	$33.26
Mississippi	$18.66	$33.18	$5.57	$49.73
Missouri	$10.43	$23.29	$3.05	$22.53
Montana	$22.27	$29.59	$7.81	$40.47
Nebraska	$18.43	$5.81	$2.57	$21.57
Nevada	$5.44	$2.31	$0.35	$6.22
New Hampshire	$7.94	$7.71	$3.43	$11.32
New Jersey	$18.59	$48.69	$3.23	$45.87
New Mexico	$21.82	$114.57	$3.99	$104.32
New York	$15.57	$48.94	$4.31	$39.66
North Carolina	$8.99	$40.82	$3.67	$29.43
North Dakota	$11.87	$13.49	$4.86	$19.67
Ohio	$10.18	$31.71	$2.76	$26.25
Oklahoma	$16.26	$47.71	$6.74	$54.76
Oregon	$11.12	$18.47	$3.11	$19.24
Pennsylvania	$10.77	$27.56	$3.56	$23.09
Puerto Rico	$23.63	$62.97	$6.45	$93.05
Rhode Island	$9.47	$62.78	$1.10	$42.57
South Carolina	$12.19	$35.05	$11.44	$40.44
South Dakota	$9.96	$19.33	$8.69	$21.46
Tennessee	$11.91	$67.21	$8.53	$52.75
Texas	$12.79	$45.91	$2.41	$42.28
Utah	$3.77	$11.05	$0.87	$4.77
Vermont	$19.48	$8.68	$9.11	$25.12
Virginia	$10.69	$19.09	$3.20	$19.81
Washington	$11.38	$38.87	$3.15	$37.31
West Virginia	$7.50	$7.11	$6.54	$19.89
Wisconsin	$15.01	$24.03	$2.03	$29.07
Wyoming	$9.59	$37.06	$1.46	$24.56
Other	$8.77	$0.00	$0.00	$8.77
US Average	$12.62	$47.47	$3.66	$43.16

NOTES:

(1) This table provides information on funding commitments made by January 4, 2000.
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(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

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School, School District, and Library data come from the U.S. Department of Education's Common Core of Data for 1997-1998.

The Urban Institute

Table A.29
Public School Districts
by State and Type of Service in Year 1
Fraction Applying

		Type of Service		
State	Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Alabama	0.80	0.79	0.47	0.85
Alaska	0.89	0.58	0.45	0.93
Arizona	0.37	0.37	0.26	0.42
Arkansas	0.95	0.56	0.94	0.95
California	0.54	0.55	0.28	0.64
Colorado	0.71	0.44	0.49	0.75
Connecticut	0.75	0.57	0.46	0.81
Delaware	0.88	0.40	0.76	0.88
District of Columbia	1.00	1.00	1.00	1.00
Florida	0.80	0.77	0.92	0.92
Georgia	0.84	0.78	0.99	1.00
Hawaii	1.00	1.00	1.00	1.00
Idaho	0.61	0.43	0.40	0.65
Illinois	0.49	0.42	0.21	0.54
Indiana	0.91	0.90	0.90	0.91
Iowa	0.93	0.68	0.76	0.93
Kansas	0.67	0.50	0.48	0.77
Kentucky	0.68	0.68	0.68	0.68
Louisiana	0.88	0.89	0.79	0.92
Maine	0.34	0.24	0.06	0.37
Maryland	0.88	0.88	0.54	0.96
Massachusetts	0.55	0.46	0.71	0.75
Michigan	0.74	0.67	0.54	0.78
Minnesota	0.77	0.58	0.61	0.77
Mississippi	0.95	0.95	0.93	0.95
Missouri	0.53	0.98	0.96	0.98
Montana	0.37	0.32	0.31	0.42
Nebraska	0.57	0.28	0.49	0.57
Nevada	0.78	0.44	0.22	0.78
New Hampshire	0.39	0.31	0.18	0.46
New Jersey	0.51	0.45	0.26	0.61
New Mexico	0.76	0.70	0.56	0.88
New York	0.91	0.72	0.69	0.92
North Carolina	0.59	0.59	0.45	0.66
North Dakota	0.57	0.43	0.24	0.58
Ohio	0.69	0.76	0.71	0.85
Oklahoma	0.68	0.63	0.44	0.73
Oregon	0.72	0.61	0.35	0.76
Pennsylvania	0.79	0.59	0.48	0.83
Puerto Rico	1.00	1.00	1.00	1.00
Rhode Island	1.00	0.43	1.00	1.00
South Carolina	0.88	0.86	0.86	0.88
South Dakota	0.57	0.50	0.47	0.66
Tennessee	0.99	0.45	0.99	0.99
Texas	0.65	0.51	0.39	0.70
Utah	0.89	0.11	0.85	0.89
Vermont	0.64	0.34	0.54	0.65
Virginia	0.83	0.63	0.56	0.83
Washington	0.98	0.97	0.97	0.98
West Virginia	0.98	0.98	0.98	0.98
Wisconsin	0.73	0.62	0.52	0.78
Wyoming	0.44	0.39	0.21	0.51
Other	0.13	0.13	0.13	0.13
US Average	0.66	0.57	0.52	0.73

NOTES:
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(4) Dedicated Services refers to telecommunication services that are specific to a school or library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

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School District data come from the U.S. Department of Education's National Center for Education Statistics,
Common Core of Data for 1997-1998.

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Table A.30
Public School Districts
by State and Type of Service in Year 2
Fraction Applying

	Type of Service			
State	Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Alabama	0.77	0.62	0.73	0.89
Alaska	0.93	0.67	0.69	0.93
Arizona	0.49	0.44	0.37	0.55
Arkansas	0.95	0.35	0.94	0.95
California	0.63	0.40	0.38	0.66
Colorado	0.79	0.44	0.59	0.79
Connecticut	0.75	0.23	0.51	0.76
Delaware	0.88	0.00	0.76	0.88
District of Columbia	1.00	0.00	1.00	1.00
Florida	0.89	0.92	0.92	0.95
Georgia	0.99	0.69	0.99	0.99
Hawaii	1.00	1.00	1.00	1.00
Idaho	0.67	0.43	0.58	0.71
Illinois	0.82	0.25	0.78	0.83
Indiana	0.91	0.22	0.85	0.91
Iowa	0.91	0.36	0.80	0.92
Kansas	0.79	0.42	0.71	0.84
Kentucky	0.78	0.78	0.72	0.79
Louisiana	0.82	0.72	0.82	0.86
Maine	0.54	0.29	0.09	0.55
Maryland	0.92	0.58	0.71	0.92
Massachusetts	0.74	0.26	0.45	0.74
Michigan	0.76	0.48	0.67	0.78
Minnesota	0.80	0.41	0.61	0.80
Mississippi	0.96	0.96	0.93	0.96
Missouri	0.98	0.96	0.96	0.98
Montana	0.46	0.23	0.39	0.48
Nebraska	0.56	0.22	0.46	0.56
Nevada	0.83	0.33	0.50	0.83
New Hampshire	0.39	0.13	0.24	0.40
New Jersey	0.58	0.28	0.41	0.61
New Mexico	0.70	0.57	0.62	0.75
New York	0.96	0.76	0.83	0.96
North Carolina	0.70	0.46	0.53	0.71
North Dakota	0.60	0.33	0.36	0.61
Ohio	0.67	0.49	0.67	0.82
Oklahoma	0.88	0.77	0.71	0.90
Oregon	0.87	0.55	0.71	0.87
Pennsylvania	0.78	0.30	0.69	0.82
Puerto Rico	1.00	1.00	1.00	1.00
Rhode Island	1.00	0.35	1.00	1.00
South Carolina	0.89	0.49	0.84	0.91
South Dakota	0.70	0.38	0.52	0.72
Tennessee	0.95	0.99	0.99	0.99
Texas	0.82	0.59	0.67	0.84
Utah	0.87	0.17	0.85	0.87
Vermont	0.56	0.23	0.37	0.57
Virginia	0.82	0.33	0.61	0.83
Washington	0.99	0.60	0.98	0.99
West Virginia	0.98	0.98	0.98	0.98
Wisconsin	0.88	0.31	0.85	0.89
Wyoming	0.82	0.80	0.79	0.82
Other	0.19	0.13	0.13	0.19
US Average	0.76	0.45	0.64	0.78

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) School districts are counted as applying if they, or any school in the district, applied directly (as a billed entity) or indirectly (as part of a consortium).
(3) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands
(4) Dedicated Services refers to telecommunication services that are specific to a school or library
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company
School District data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.31
Public Schools
by Urban Location in Year 1
Fraction Applying and Funded

	National Totals % of Total		E-Rate Applications Fractions of Schools	
Urban Location	Schools n=89,637	Students n=46,091,032	Applying	Funded
City	27%	34%	0.81	0.99
Urban Fringe	33%	39%	0.75	0.96
Town	15%	13%	0.76	0.99
Rural	25%	14%	0.70	0.98
Total	100%	100%	0.76	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.32
Public Schools
by Urban Location in Year 2
Fraction Applying and Funded

	National Totals % of Total		E-Rate Applications Fractions of Schools	
Urban Location	Schools n=89,637	Students n=46,091,032	Applying	Funded
City	27%	34%	0.83	0.99
Urban Fringe	33%	39%	0.78	0.97
Town	15%	13%	0.80	0.98
Rural	25%	14%	0.75	0.97
Total	100%	100%	0.79	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

The Urban Institute

Table A.33
Public Schools
by Size in Year 1
Fraction Applying and Funded

Number of Students Enrolled	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=89,565	Students n=46,786,363	Applying	Funded
0 - 299	31%	9%	0.61	0.98
300 - 999	60%	64%	0.82	0.98
1,000 or More	9%	27%	0.83	0.97
Total	100%	100%	0.76	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.34
Public Schools
by Size in Year 2
Fraction Applying and Funded

Number of Students Enrolled	National Totals % of Total Schools n=89,565	 Students n=46,786,363	E-Rate Applications Fractions of Schools Applying	 Funded
0 - 299	31%	9%	0.66	0.97
300 - 999	60%	64%	0.85	0.98
1,000 or More	9%	27%	0.85	0.98
Total	100%	100%	0.79	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.35
Public Schools
by % Minority of District in Year 1
Fraction Applying and Funded

% Minority	National Totals % of Total Schools n=88,670	 Students n=46,527,744	E-Rate Applications Fractions of Schools Applying	 Funded
Under 6%	29%	22%	0.76	0.97
6 to 20%	21%	22%	0.77	0.97
21 to 49%	21%	24%	0.77	0.97
50% or More	28%	33%	0.74	0.99
Total	100%	100%	0.76	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.36
Public Schools
by % Minority of District in Year 2
Fraction Applying and Funded

	National Totals % of Total		E-Rate Applications Fractions of Schools	
% Minority	Schools n=88,670	Students n=46,527,744	Applying	Funded
Under 6%	29%	22%	0.80	0.97
6 to 20%	21%	22%	0.80	0.97
21 to 49%	21%	24%	0.79	0.97
50% or More	28%	33%	0.79	0.99
Total	100%	100%	0.79	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.37
Public Schools
by SLD Poverty in Year 1
Fraction Applying and Funded

Percent of Students Eligible for Free and Reduced Price Meals	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=73,213	Students n=38,545,834	Applying	Funded
Less than 1%	6%	3%	0.41	0.96
1 to < 20%	30%	35%	0.78	0.96
20 to <35%	21%	20%	0.80	0.97
35 to <50%	15%	14%	0.80	0.98
50 to <75%	16%	16%	0.78	0.99
75% or more	12%	12%	0.73	0.99
Total	100%	100%	0.76	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) SLD poverty cuts used here are based on CCD data which differ from the poverty data used to calculate E-Rate discounts.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.38
Public Schools
by SLD Poverty in Year 2
Fraction Applying and Funded

Percent of Students Eligible for Free and Reduced Price Meals	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=73,213	Students n=38,545,834	Applying	Funded
Less than 1%	6%	3%	0.43	0.97
1 to < 20%	30%	35%	0.81	0.97
20 to <35%	21%	20%	0.83	0.98
35 to <50%	15%	14%	0.83	0.98
50 to <75%	16%	16%	0.83	0.99
75% or more	12%	12%	0.79	0.99
Total	100%	100%	0.80	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) SLD poverty cuts used here are based on CCD data which differ from the poverty data used to calculate E-Rate discounts.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.39
Public Schools
by State in Year 1
Fraction Applying and Funded

State	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=92,352	Students n=46,786,363	Applying	Funded
Alabama	1.47%	1.58%	0.82	0.99
Alaska	0.56%	0.28%	0.81	1.00
Arizona	1.58%	1.74%	0.55	0.97
Arkansas	1.20%	0.99%	0.94	1.00
California	8.93%	12.24%	0.64	0.94
Colorado	1.72%	1.47%	0.71	0.98
Connecticut	1.17%	1.14%	0.76	0.94
Delaware	0.20%	0.24%	0.90	0.99
District of Columbia	0.20%	0.16%	0.78	1.00
Florida	3.18%	4.90%	0.85	0.99
Georgia	2.00%	2.94%	0.93	1.00
Hawaii	0.27%	0.41%	0.99	1.00
Idaho	0.70%	0.52%	0.65	0.98
Illinois	4.63%	4.29%	0.63	0.95
Indiana	2.12%	2.11%	0.91	1.00
Iowa	1.69%	1.07%	0.90	0.98
Kansas	1.61%	1.00%	0.64	0.97
Kentucky	1.56%	1.38%	0.87	1.00
Louisiana	1.62%	1.66%	0.91	1.00
Maine	0.79%	0.46%	0.42	0.95
Maryland	1.42%	1.78%	0.89	0.96
Massachusetts	2.03%	2.03%	0.88	0.99
Michigan	0.79%	3.61%	0.77	0.95
Minnesota	2.45%	1.82%	0.54	0.99
Mississippi	1.10%	1.09%	0.85	1.00
Missouri	2.52%	1.94%	0.84	0.99
Montana	0.97%	0.35%	0.39	0.93
Nebraska	1.53%	0.63%	0.66	
Nevada	0.50%	0.63%	0.81	1.00
New Hampshire	0.56%	0.43%	0.49	0.92
New Jersey	2.52%	2.67%	0.64	0.92
New Mexico	0.81%	0.71%	0.68	0.97
New York	4.60%	8.11%	0.85	1.00
North Carolina	2.26%	2.64%	0.80	0.94
North Dakota	0.66%	0.25%	0.48	0.99
Ohio	4.29%	4.00%	0.87	0.98
Oklahoma	2.02%	1.33%	0.56	0.98
Oregon	1.36%	1.16%	0.82	1.00
Pennsylvania	3.50%	3.88%	0.82	0.97
Puerto Rico	1.70%	1.32%	0.18	1.00
Rhode Island	0.34%	0.33%	0.94	1.00
South Carolina	1.20%	1.39%	0.92	1.00
South Dakota	0.91%	0.30%	0.56	0.98
Tennessee	1.76%	1.88%	0.94	1.00
Texas	7.74%	8.32%	0.65	0.96
Utah	0.83%	1.03%	0.91	1.00
Vermont	0.43%	0.23%	0.63	0.98
Virginia	2.07%	2.37%	0.93	1.00
Washington	2.43%	2.12%	0.80	1.00
West Virginia	0.95%	0.64%	0.93	1.00
Wisconsin	2.31%	1.88%	0.69	0.98
Wyoming	0.45%	0.21%	0.39	0.97
Other	0.32%	0.34%	0.14	1.00
Total	100.00%	100.00%	0.74	0.98

NOTES:

(1) This table shows funding commitments made by January 4, 2000.

(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).

(3) Fraction of schools funded is out of those that applied.

(4) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.

(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.

School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.40
Public Schools
by State in Year 2
Fraction Applying and Funded

	National Totals % of Total		E-Rate Applications Fractions of Schools	
State	Schools n=92,352	Students n=46,786,363	Applying	Funded
Alabama	1.47%	1.58%	0.85	0.98
Alaska	0.56%	0.28%	0.80	1.00
Arizona	1.58%	1.74%	0.49	0.92
Arkansas	1.20%	0.99%	0.96	1.00
California	8.93%	12.24%	0.66	0.97
Colorado	1.72%	1.47%	0.70	0.99
Connecticut	1.17%	1.14%	0.73	0.91
Delaware	0.20%	0.24%	0.92	1.00
District of Columbia	0.20%	0.16%	0.78	1.00
Florida	3.16%	4.90%	0.87	1.00
Georgia	2.00%	2.94%	0.93	1.00
Hawaii	0.27%	0.41%	0.99	1.00
Idaho	0.70%	0.52%	0.71	0.98
Illinois	4.63%	4.29%	0.82	0.98
Indiana	2.12%	2.11%	0.86	1.00
Iowa	1.69%	1.07%	0.89	0.98
Kansas	1.61%	1.00%	0.73	0.93
Kentucky	1.56%	1.38%	0.88	1.00
Louisiana	1.62%	1.66%	0.86	1.00
Maine	0.79%	0.46%	0.62	0.95
Maryland	1.42%	1.78%	0.88	0.98
Massachusetts	2.03%	2.03%	0.87	0.99
Michigan	0.79%	3.61%	0.78	0.99
Minnesota	2.45%	1.82%	0.66	0.90
Mississippi	1.10%	1.09%	0.86	1.00
Missouri	2.52%	1.94%	0.83	0.99
Montana	0.97%	0.35%	0.41	0.96
Nebraska	1.53%	0.63%	0.70	
Nevada	0.50%	0.63%	0.83	0.93
New Hampshire	0.56%	0.43%	0.45	0.86
New Jersey	2.52%	2.67%	0.62	0.92
New Mexico	0.81%	0.71%	0.68	0.98
New York	4.60%	6.11%	0.90	0.99
North Carolina	2.26%	2.64%	0.82	0.99
North Dakota	0.66%	0.25%	0.50	0.95
Ohio	4.29%	4.00%	0.85	0.99
Oklahoma	2.02%	1.33%	0.67	0.97
Oregon	1.36%	1.16%	0.85	0.94
Pennsylvania	3.50%	3.88%	0.80	0.96
Puerto Rico	1.70%	1.32%	0.45	1.00
Rhode Island	0.34%	0.33%	0.95	0.99
South Carolina	1.20%	1.39%	0.92	1.00
South Dakota	0.91%	0.30%	0.58	0.94
Tennessee	1.76%	1.88%	0.94	1.00
Texas	7.74%	8.32%	0.76	0.97
Utah	0.83%	1.03%	0.87	1.00
Vermont	0.43%	0.23%	0.53	0.95
Virginia	2.07%	2.37%	0.92	1.00
Washington	2.43%	2.12%	0.78	0.86
West Virginia	0.95%	0.64%	0.89	1.00
Wisconsin	2.31%	1.88%	0.84	0.99
Wyoming	0.45%	0.21%	0.88	1.00
Other	0.32%	0.34%	0.16	1.00
Total	100.00%	100.00%	0.78	0.98

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) Fraction of schools funded is out of those that applied.
(4) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.41
Public Schools
by SLD Poverty and Urban Location in Year 1
Fraction Applying

Percent of Students Eligible for Free and Reduced Price Meals	Urban Location				
	City	Urban Fringe	Town	Rural	Total
Less than 1%	0.41	0.47	0.30	0.39	0.41
1 - 20%	0.83	0.78	0.81	0.74	0.78
20 - 35%	0.85	0.80	0.83	0.74	0.80
35 - 50%	0.85	0.79	0.83	0.74	0.80
50 - 75%	0.83	0.79	0.84	0.72	0.80
75% or More	0.87	0.76	0.76	0.71	0.82
Total	0.83	0.76	0.79	0.71	0.77

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) The city/urban fringe/town/rural terms are based on NCES definitions.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.42
Public Schools
by SLD Poverty and Urban Location in Year 2
Fraction Applying

Percent of Students Eligible for Free and Reduced Price Meals	Urban Location				
	City	Urban Fringe	Town	Rural	Total
Less than 1%	0.44	0.51	0.30	0.39	0.43
1 - 20%	0.83	0.81	0.85	0.79	0.81
20 - 35%	0.87	0.83	0.86	0.78	0.83
35 - 50%	0.87	0.81	0.87	0.79	0.83
50 - 75%	0.88	0.82	0.87	0.75	0.84
75% or More	0.90	0.79	0.79	0.75	0.85
Total	0.85	0.79	0.82	0.75	0.80

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) The city/urban fringe/town/rural terms are based on NCES definitions.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.43
Public Schools
by SLD Poverty*School Size in Year 1
Fraction Applying

Percent of Students Eligible for Free and Reduced Price Meals	Number of Students Enrolled 0 - 300	300 - 999	1,000 or More	Total
Less than 1%	0.29	0.68	0.61	0.41
1 to <20%	0.67	0.81	0.83	0.78
20 to <35%	0.69	0.84	0.86	0.80
35 to <50%	0.70	0.85	0.84	0.80
50 to <75%	0.67	0.83	0.82	0.78
75% or more	0.57	0.79	0.82	0.73
Total	0.62	0.82	0.83	0.76

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly, (as part of a district or consortia).
(3) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.44
Public Schools
by SLD Poverty*School Size in Year 2
Fraction Applying

Percent of Students Eligible for Free and Reduced Price Meals	Number of Students Enrolled 0 - 300	300 - 999	1,000 or More	Total
Less than 1%	0.31	0.70	0.64	0.43
1 to <20%	0.71	0.84	0.84	0.81
20 to <35%	0.75	0.86	0.89	0.83
35 to <50%	0.75	0.87	0.86	0.83
50 to <75%	0.72	0.88	0.87	0.83
75% or more	0.65	0.84	0.85	0.79
Total	0.67	0.85	0.85	0.80

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly, (as part of a district or consortia).
(3) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.45
Public Schools
by Size*Urban Location in Year 1
Fraction Applying

Number of Students Enrolled	Urban Location City	Urban Fringe	Town	Rural	Total
0 - 299	0.61	0.57	0.63	0.63	0.62
300 - 999	0.88	0.80	0.84	0.81	0.83
1,000 or More	0.86	0.81	0.85	0.76	0.83
Total	0.82	0.76	0.78	0.71	0.77

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) The city/urban fringe/town/rural terms are based on NCES definitions.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.46
Public Schools
by Size*Urban Location in Year 2
Fraction Applying

Number of Students Enrolled	Urban Location City	Urban Fringe	Town	Rural	Total
0 - 299	0.65	0.60	0.68	0.70	0.67
300 - 999	0.89	0.83	0.88	0.84	0.86
1,000 or More	0.88	0.83	0.87	0.81	0.85
Total	0.84	0.79	0.82	0.76	0.80

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).
(3) The city/urban fringe/town/rural terms are based on NCES definitions.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.47
Public Schools
by SLD Poverty*% Minority in Year 1
Fraction Applying

Percent of Students Eligible for Free and Reduced Price Meals	Percent Minority				Total
	Less than 6%	6 to 20%	21 to 49%	50% or More	
Less than 1%	0.42	0.50	0.37	0.38	0.42
1 to <20%	0.80	0.78	0.76	0.72	0.78
20 to <35%	0.80	0.81	0.79	0.79	0.80
35 to <50%	0.81	0.80	0.81	0.77	0.80
50 to <75%	0.83	0.77	0.80	0.77	0.78
75% or more	0.73	0.63	0.73	0.73	0.73
Total	0.77	0.77	0.77	0.74	0.76

NOTES:

(1) This table shows funding commitments made by January 4, 2000.

(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly, (as part of a district or consortia).

(3) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.

School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.48
Public Schools
by SLD Poverty*% Minority in Year 2
Fraction Applying

Percent of Students Eligible for Free and Reduced Price Meals	Percent Minority				
	Less than 6%	6 to 20%	21 to 49%	50% or More	Total
Less than 1%	0.42	0.55	0.36	0.42	0.44
1 to <20%	0.83	0.82	0.79	0.73	0.81
20 to <35%	0.83	0.84	0.82	0.83	0.83
35 to <50%	0.83	0.84	0.83	0.83	0.83
50 to <75%	0.83	0.81	0.83	0.83	0.83
75% or more	0.74	0.70	0.76	0.79	0.79
Total	0.79	0.81	0.80	0.80	0.80

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly, (as part of a district or consortia).
(3) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
School data come from the U.S. Department of Education's National Center for Education Statistics, Common Core of Data for 1997-1998.

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Table A.49
Private Schools
by Urban Location in Year 1
Fraction Applying and Funded

Urban Location	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=30,255	Students n=5,568,421	Applying	Funded
City	42%	48%	0.18	0.91
Urban Fringe	38%	39%	0.13	0.90
Town	11%	8%	0.12	0.94
Rural	9%	5%	0.11	0.94
Total	100%	100%	0.15	0.91

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).
(3) Fraction of schools funded is out of those that applied.
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).
School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-98.

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Table A.50
Private Schools
by Urban Location in Year 2
Fraction Applying and Funded

Urban Location	National Totals % of Total Schools n=30,255	National Totals % of Total Students n=5,568,421	E-Rate Applications Fractions of Schools Applying	E-Rate Applications Fractions of Schools Funded
City	42%	48%	0.20	0.92
Urban Fringe	38%	39%	0.15	0.90
Town	11%	8%	0.13	0.92
Rural	9%	5%	0.12	0.90
Total	100%	100%	0.16	0.91

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).
(3) Fraction of schools funded is out of those that applied.
(4) The city/urban fringe/town/rural terms are based on NCES definitions.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).
School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-98.

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Table A.51
Private Schools
by Size in Year 1
Fraction Applying and Funded

Number of Students Enrolled	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=30,255	Students n=5,568,421	Applying	Funded
0 - 299	81%	47%	0.10	0.92
300 - 999	18%	46%	0.34	0.91
1000 or More	1%	6%	0.45	0.90
Total	100%	100%	0.15	0.91

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).
(3) Fraction of schools funded is out of those that applied.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).
School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.52
Private Schools
by Size in Year 2
Fraction Applying and Funded

Number of Students Enrolled	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=30,255	Students n=5,568,421	Applying	Funded
0 - 299	81%	47%	0.12	0.90
300 - 999	18%	46%	0.36	0.92
1000 or More	1%	6%	0.41	0.93
Total	100%	100%	0.16	0.91

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).
(3) Fraction of schools funded is out of those that applied.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).
School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.53
Private Schools
by % Minority of District in Year 1
Fraction Applying and Funded

	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools	Students		
% Minority	n=30,255	n=5,568,421	Applying	Funded
Less than 6%	37%	38%	0.15	0.93
6 to 20%	25%	29%	0.16	0.92
21 to 49%	18%	16%	0.13	0.90
50% or More	19%	16%	0.14	0.87
Total	100%	100%	0.15	0.91

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).
(3) Fraction of schools funded is out of those that applied.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).
School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.54
Private Schools
by % Minority of District in Year 2
Fraction Applying and Funded

	National Totals % of Total		E-Rate Applications Fractions of Schools	
% Minority	Schools n=30,255	Students n=5,568,421	Applying	Funded
Less than 6%	37%	38%	0.17	0.90
6 to 20%	25%	29%	0.16	0.91
21 to 49%	18%	16%	0.13	0.91
50% or More	19%	16%	0.18	0.92
Total	100%	100%	0.16	0.91

NOTES:

(1) This table shows funding commitments made by January 4, 2000.

(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).

(3) Fraction of schools funded is out of those that applied.

(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).

School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.55
Private Schools
by State in Year 1
Fraction Applying and Funded

State	National Totals % of Total		E-Rate Applications Fractions of Schools	
	Schools n=30,255	Students n=5,568,421	Applying	Funded
Alabama	1.08%	1.35%	0.09	0.97
Alaska	0.23%	0.12%	0.06	0.75
Arizona	1.27%	1.03%	0.04	0.88
Arkansas	0.64%	0.52%	0.05	1.00
California	13.78%	12.36%	0.11	0.67
Colorado	1.48%	1.12%	0.06	0.96
Connecticut	1.19%	1.33%	0.21	0.95
Delaware	0.44%	0.49%	0.21	1.00
District of Columbia	0.27%	0.30%	0.30	0.80
Florida	5.06%	5.50%	0.10	0.88
Georgia	1.88%	1.99%	0.06	0.94
Hawaii	0.43%	0.62%	0.09	0.92
Idaho	0.31%	0.19%	0.06	1.00
Illinois	5.30%	5.98%	0.21	0.94
Indiana	2.49%	2.11%	0.08	0.97
Iowa	0.86%	0.95%	0.43	0.98
Kansas	0.73%	0.76%	0.17	0.95
Kentucky	1.44%	1.40%	0.07	0.97
Louisiana	1.43%	2.60%	0.30	0.89
Maine	0.46%	0.31%	0.09	1.00
Maryland	2.60%	2.64%	0.14	0.92
Massachusetts	3.13%	2.63%	0.19	0.94
Michigan	3.47%	3.60%	0.17	0.95
Minnesota	1.80%	1.70%	0.11	0.92
Mississippi	0.65%	0.94%	0.14	0.96
Missouri	2.03%	2.26%	0.18	0.96
Montana	0.30%	0.16%	0.11	1.00
Nebraska	0.74%	0.76%	0.26	0.96
Nevada	0.29%	0.26%	0.10	0.89
New Hampshire	1.07%	0.53%	0.02	1.00
New Jersey	3.41%	4.18%	0.16	0.93
New Mexico	0.72%	0.41%	0.04	1.00
New York	6.75%	9.03%	0.35	0.95
North Carolina	1.66%	1.60%	0.06	0.83
North Dakota	0.19%	0.14%	0.14	0.63
Ohio	3.68%	4.82%	0.24	0.95
Oklahoma	0.60%	0.56%	0.12	0.95
Oregon	1.32%	0.91%	0.07	0.86
Pennsylvania	7.63%	6.73%	0.17	0.96
Rhode Island	0.59%	0.53%	0.11	0.90
South Carolina	1.34%	1.20%	0.07	0.90
South Dakota	0.26%	0.18%	0.14	0.91
Tennessee	1.59%	1.55%	0.04	1.00
Texas	4.81%	4.62%	0.06	0.91
Utah	0.36%	0.31%	0.05	1.00
Vermont	0.38%	0.21%	0.16	0.94
Virginia	2.15%	1.96%	0.11	0.92
Washington	1.72%	1.49%	0.15	0.94
West Virginia	0.46%	0.26%	0.14	1.00
Wisconsin	3.35%	2.74%	0.14	0.92
Wyoming	0.15%	0.06%	0.02	1.00
Total	100%	100%	0.15	0.91

NOTES:

(1) This table shows funding commitments made by January 4, 2000.

(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).

(3) Fraction of schools funded is out of those that applied.

(4) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.

(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).

School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.56
Private Schools
by State in Year 2
Fraction Applying and Funded

State	National Totals % of Total Schools n=30,255	Students n=5,568,421	E-Rate Applications Fractions of Schools Applying	Funded
Alabama	1.08%	1.35%	0.09	0.80
Alaska	0.23%	0.12%	0.10	1.00
Arizona	1.27%	1.03%	0.07	0.69
Arkansas	0.64%	0.52%	0.07	0.93
California	13.78%	12.36%	0.11	0.95
Colorado	1.48%	1.12%	0.06	0.89
Connecticut	1.19%	1.33%	0.15	0.91
Delaware	0.44%	0.49%	0.20	1.00
District of Columbia	0.27%	0.30%	0.40	0.97
Florida	5.06%	5.50%	0.09	0.90
Georgia	1.88%	1.99%	0.07	0.88
Hawaii	0.43%	0.62%	0.11	0.79
Idaho	0.31%	0.19%	0.05	1.00
Illinois	5.30%	5.98%	0.28	0.96
Indiana	2.49%	2.11%	0.08	0.97
Iowa	0.86%	0.95%	0.36	0.92
Kansas	0.73%	0.76%	0.18	0.90
Kentucky	1.44%	1.40%	0.25	0.94
Louisiana	1.43%	2.60%	0.35	0.91
Maine	0.46%	0.31%	0.12	0.75
Maryland	2.60%	2.64%	0.11	0.88
Massachusetts	3.13%	2.63%	0.19	0.94
Michigan	3.47%	3.60%	0.20	0.89
Minnesota	1.80%	1.70%	0.15	0.88
Mississippi	0.65%	0.94%	0.17	0.91
Missouri	2.03%	2.26%	0.16	0.86
Montana	0.30%	0.16%	0.17	1.00
Nebraska	0.74%	0.76%	0.27	0.98
Nevada	0.29%	0.26%	0.06	1.00
New Hampshire	1.07%	0.53%	0.02	1.00
New Jersey	3.41%	4.18%	0.22	0.79
New Mexico	0.72%	0.41%	0.06	0.67
New York	6.75%	9.03%	0.35	0.90
North Carolina	1.66%	1.60%	0.04	0.91
North Dakota	0.19%	0.14%	0.12	1.00
Ohio	3.68%	4.82%	0.28	0.98
Oklahoma	0.60%	0.56%	0.14	0.85
Oregon	1.32%	0.91%	0.06	0.79
Pennsylvania	7.63%	6.73%	0.19	0.87
Rhode Island	0.59%	0.53%	0.23	0.95
South Carolina	1.34%	1.20%	0.06	0.91
South Dakota	0.26%	0.18%	0.11	0.89
Tennessee	1.59%	1.55%	0.05	0.92
Texas	4.81%	4.62%	0.07	0.88
Utah	0.36%	0.31%	0.05	1.00
Vermont	0.38%	0.21%	0.04	1.00
Virginia	2.15%	1.96%	0.09	0.90
Washington	1.72%	1.49%	0.11	0.82
West Virginia	0.46%	0.26%	0.16	0.91
Wisconsin	3.35%	2.74%	0.17	0.93
Wyoming	0.15%	0.06%	0.04	1.00
Total	100%	100%	0.16	0.91

NOTES:

(1) This table shows funding commitments made by January 4, 2000.

(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or a consortium).

(3) Fraction of schools funded is out of those that applied.

(4) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.

(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).

School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.57
Private Schools
by Size and Urban Location in Year 1
Fraction Applying

Number of Students Enrolled	Urban Location				
	City	Urban Fringe	Town	Rural	Total
0 - 299	0.12	0.09	0.10	0.10	0.10
300 - 999	0.36	0.32	0.36	0.30	0.34
1,000 or More	0.46	0.43	0.00	0.50	0.45
Total	0.18	0.13	0.12	0.11	0.15

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).
(3) The city/urban fringe/town/rural terms are based on NCES definitions.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).
School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.58
Private Schools
by Size and Urban Location in Year 2
Fraction Applying

Number of Students Enrolled	Urban Location				Total
	City	Urban Fringe	Town	Rural	
0 - 299	0.14	0.10	0.11	0.10	0.12
300 - 999	0.38	0.33	0.29	0.30	0.36
1,000 or More	0.42	0.40	0.00	0.50	0.41
Total	0.20	0.15	0.13	0.12	0.16

NOTES:
(1) This table shows funding commitments made by January 4, 2000.
(2) Schools are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a district or consortia).
(3) The city/urban fringe/town/rural terms are based on NCES definitions.
(4) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC).
School data come from the U.S. Department of Education's National Center for Education Statistics, Private School Survey for 1997-1998.

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Table A.59
Library Systems
by Urban Location in Year 1
Fraction Applying, Funded, and Dollars Committed

Urban Location	National Totals % of Total Libraries n=8,654	 People n=253,587,665	E-Rate Applications and Funding Commitments Fractions of Libraries Applying	 Funded	 Total Commitments ($000)	 Averages per Library ($000)	 per Person ($)
Urban	6%	31%	0.70	0.97	$13,539	$55	$0.29
Suburban	30%	41%	0.58	0.98	$9,452	$10	$0.21
Rural	65%	27%	0.44	0.98	$7,863	$4	$0.25
Total	100%	100%	0.50	0.98	$30,853	$10	$0.25

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per library and per person are only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Urban Location for libraries comes from 1994 data provided by the American Library Association.

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Table A.60
Library Systems
by Urban Location in Year 2
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Libraries		Total Commitments ($000)	Averages	
Urban Location	Libraries n=8,654	People n=253,587,665	Applying	Funded		per Library ($000)	per Person ($)
Urban	6%	31%	0.71	0.96	$12,087	$49	$0.29
Suburban	30%	41%	0.58	0.95	$7,947	$10	$0.16
Rural	65%	27%	0.47	0.91	$7,567	$4	$0.23
Total	100%	100%	0.52	0.92	$27,601	$10	$0.22

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per library and per person are only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Urban Location for libraries comes from 1994 data provided by the American Library Association.

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Table A.61
Library Systems
by Size in Year 1
Fraction Applying, Funded, and Dollars Committed

Population of Legal Service Area	National Totals % of Total: Libraries n=8,946	National Totals % of Total: People n=260,172,849	E-Rate Applications and Funding Commitments: Fractions of Libraries: Applying	Fractions of Libraries: Funded	Total Commitments ($000)	Averages: per Library ($000)	Averages: per Person ($)
Less than 5,000	43.83%	3.12%	0.33	0.98	$1,250	$1	$0.56
5,000-24,999	35.51%	14.44%	0.57	0.98	$3,558	$3	$0.24
25,000-99,999	15.35%	25.26%	0.65	0.97	$6,711	$11	$0.22
100,000-499,999	4.50%	30.02%	0.79	0.98	$8,971	$45	$0.23
500,000-999,999	0.58%	13.79%	0.87	1.00	$7,317	$229	$0.33
Over 1 Million	0.22%	13.38%	0.80	1.00	$3,404	$340	$0.21
Total	100.00%	100.00%	0.49	0.98	$31,212	$10	$0.25

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per library and per person are only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) The service area used here is not the area used to calculate E-Rate discounts.
(7) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.

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Table A.62
Library Systems
by Size in Year 2
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Libraries		Total Commitments ($000)	Averages	
Population of Legal Service Area	Libraries n=8,946	People n=260,172,849	Applying	Funded		per Library ($000)	per Person ($)
Less than 5,000	43.83%	3.12%	0.37	0.88	$1,171	$1	$0.54
5,000-24,999	35.51%	14.44%	0.57	0.93	$3,299	$3	$0.24
25,000-99,999	15.35%	25.26%	0.65	0.95	$5,464	$9	$0.19
100,000-499,999	4.50%	30.02%	0.79	0.97	$8,595	$42	$0.21
500,000-999,999	0.58%	13.79%	0.94	0.98	$5,777	$186	$0.27
Over 1 Million	0.22%	13.38%	0.95	1.00	$3,556	$296	$0.20
Total	100.00%	100.00%	0.51	0.92	$27,862	$10	$0.22

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per library and per person are only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) The service area used here is not the area used to calculate E-Rate discounts.
(7) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.

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Table A.63
Library Systems
by Poverty in Year 1
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Libraries		Total Commitments ($000)	Averages	
Percent of Service Population Poor	Libraries n=8,654	People n=253,587,665	Applying	Funded		per Library ($000)	per Person ($)
Less than 9%	36%	25%	0.52	0.97	$4,822	$5	$0.18
9 to < 15%	32%	26%	0.47	0.98	$6,615	$7	$0.20
15 to < 22%	20%	25%	0.49	0.98	$7,411	$12	$0.25
22% or more	12%	23%	0.54	0.99	$12,005	$29	$0.37
Total	100%	100%	0.50	0.98	$30,853	$10	$0.25

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per library and per person are only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or.indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) The service area used here is not the area used to calculate E-Rate discounts.
(7) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Poverty for libraries comes from 1994 data provided by the American Library Association.

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Table A.64
Library Systems
by Poverty in Year 2
Fraction Applying, Funded, and Dollars Committed

Percent of Service Population Poor	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Libraries		Total Commitments ($000)	Averages	
	Libraries n=8,654	People n=253,587,665	Applying	Funded		per Library ($000)	per Person ($)
Less than 9%	36%	25%	0.51	0.93	$4,045	$5	$0.15
9 to < 15%	32%	26%	0.49	0.90	$8,189	$9	$0.23
15 to < 22%	20%	25%	0.55	0.93	$7,031	$11	$0.21
22% or more	12%	23%	0.57	0.97	$8,336	$19	$0.30
Total	100%	100%	0.52	0.92	$27,601	$10	$0.22

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per library and per person are only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) The service area used here is not the area used to calculate E-Rate discounts.
(7) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Poverty for libraries comes from 1994 data provided by the American Library Association.

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Table A.65
Library Systems
by State in Year 1
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Libraries		Total	Averages	
State	Libraries n=8,654	People n=253,587,665	Applying	Funded	Commitments ($000)	per Library ($000)	per Person ($)
Alabama	2.24%	1.43%	0.48	0.98	$598	$9	$0.42
Alaska	0.89%	0.24%	0.27	0.95	$73	$4	$0.75
Arizona	0.44%	1.68%	0.50	1.00	$279	$17	$0.13
Arkansas	0.40%	0.89%	0.37	1.00	$99	$11	$0.12
California	1.94%	12.59%	0.56	0.96	$1,590	$28	$0.11
Colorado	1.17%	1.43%	0.56	0.98	$309	$8	$0.19
Connecticut	2.21%	1.57%	0.49	0.97	$453	$10	$0.28
Delaware	0.31%	0.24%	0.63	1.00	$55	$4	$0.22
District of Columbia	0.01%	0.21%	1.00	1.00	$512	$512	$0.94
Florida	1.11%	5.58%	0.68	0.98	$2,516	$55	$0.33
Georgia	0.62%	2.85%	0.94	1.00	$1,150	$43	$0.29
Hawaii	0.01%	0.47%	1.00	1.00	$53	$53	$0.04
Idaho	1.21%	0.38%	0.31	1.00	$86	$3	$0.21
Illinois	6.99%	4.11%	0.57	0.95	$809	$4	$0.26
Indiana	2.75%	2.05%	0.61	0.99	$1,207	$9	$0.37
Iowa	5.97%	1.15%	0.35	0.97	$195	$1	$0.18
Kansas	3.70%	0.83%	0.28	0.99	$233	$3	$0.32
Kentucky	1.34%	1.44%	0.41	0.98	$389	$10	$0.31
Louisiana	0.75%	1.72%	0.92	0.98	$1,733	$35	$0.48
Maine	2.58%	0.42%	0.09	0.85	$27	$2	$0.19
Maryland	0.28%	1.98%	0.75	1.00	$1,219	$68	$0.30
Massachusetts	4.26%	2.37%	0.58	0.98	$218	$3	$0.16
Michigan	4.21%	3.50%	0.62	0.94	$1,405	$11	$0.31
Minnesota	1.47%	1.72%	0.79	0.99	$64	$3	$0.08
Mississippi	0.54%	1.07%	0.96	1.00	$920	$25	$0.40
Missouri	1.62%	1.89%	0.74	1.00	$379	$11	$0.19
Montana	0.95%	0.32%	0.51	0.98	$93	$3	$0.19
Nebraska	2.58%	0.54%	0.35	0.99	$103	$1	$0.32
Nevada	0.24%	0.62%	0.71	1.00	$122	$9	$0.12
New Hampshire	2.53%	0.48%	0.15	0.94	$55	$2	$0.20
New Jersey	3.55%	3.36%	0.29	0.98	$908	$14	$0.30
New Mexico	0.77%	0.53%	0.39	0.96	$43	$2	$0.19
New York	8.48%	5.81%	0.71	0.99	$2,886	$7	$0.30
North Carolina	0.86%	2.83%	0.76	1.00	$814	$21	$0.21
North Dakota	0.88%	0.22%	0.16	0.92	$23	$3	$0.12
Ohio	2.89%	4.41%	0.79	0.98	$1,104	$18	$0.29
Oklahoma	1.24%	1.01%	0.50	1.00	$574	$12	$0.28
Oregon	1.41%	1.17%	0.25	1.00	$173	$7	$0.14
Pennsylvania	5.02%	4.47%	0.68	0.99	$744	$3	$0.12
Rhode Island	0.58%	0.50%	0.54	1.00	$165	$8	$0.21
South Carolina	0.46%	1.46%	0.83	0.97	$43	$7	$0.08
South Dakota	1.26%	0.16%	0.15	0.94	$30	$2	$0.24
Tennessee	1.57%	3.24%	0.70	0.99	$227	$3	$0.05
Texas	5.35%	6.54%	0.28	0.98	$1,291	$14	$0.19
Utah	0.64%	0.71%	0.42	0.96	$270	$13	$0.23
Vermont	2.23%	0.23%	0.41	1.00	$60	$2	$0.49
Virginia	1.02%	2.57%	0.64	1.00	$1,170	$23	$0.30
Washington	0.80%	2.10%	0.48	1.00	$949	$43	$0.37
West Virginia	1.12%	0.71%	0.99	1.00	$266	$3	$0.16
Wisconsin	4.30%	2.02%	0.30	0.94	$2,137	$23	$0.89
Wyoming	0.27%	0.19%	0.48	1.00	$36	$4	$0.17
Total	100%	100%	0.50	0.98	$30,853	$10	$0.25

NOTES:
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(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's Public Library Survey for 1996.

The Urban Institute

Table A.66
Library Systems
by State in Year 2
Fraction Applying, Funded, and Dollars Committed

	National Totals % of Total		E-Rate Applications and Funding Commitments				
			Fractions of Libraries		Total Commitments ($000)	Averages	
State	Libraries n=8,654	People n=253,587,665	Applying	Funded		per Library ($000)	per Person ($)
Alabama	2.24%	1.43%	0.47	0.90	$399	$7	$0.28
Alaska	0.89%	0.24%	0.34	0.85	$62	$3	$0.68
Arizona	0.44%	1.68%	0.61	0.96	$348	$18	$0.16
Arkansas	0.40%	0.89%	0.43	0.80	$43	$4	$0.05
California	1.94%	12.59%	0.57	0.95	$2,405	$43	$0.14
Colorado	1.17%	1.43%	0.50	0.96	$275	$7	$0.17
Connecticut	2.21%	1.57%	0.43	0.94	$301	$10	$0.28
Delaware	0.31%	0.24%	0.56	1.00	$51	$4	$0.31
District of Columbia	0.01%	0.21%	1.00	1.00	$362	$362	$0.67
Florida	1.11%	5.58%	0.73	1.00	$1,477	$27	$0.17
Georgia	0.62%	2.85%	0.96	1.00	$1,311	$47	$0.34
Hawaii	0.01%	0.47%	1.00	1.00	$84	$84	$0.07
Idaho	1.21%	0.38%	0.35	0.86	$90	$3	$0.22
Illinois	6.99%	4.11%	0.54	0.95	$404	$2	$0.17
Indiana	2.75%	2.05%	0.54	0.88	$870	$8	$0.25
Iowa	5.97%	1.15%	0.39	0.89	$218	$1	$0.19
Kansas	3.70%	0.83%	0.31	0.89	$188	$2	$0.27
Kentucky	1.34%	1.44%	0.37	0.93	$258	$7	$0.27
Louisiana	0.75%	1.72%	0.88	0.98	$361	$9	$0.13
Maine	2.58%	0.42%	0.15	0.94	$94	$3	$0.32
Maryland	0.28%	1.98%	0.88	1.00	$2,070	$104	$0.43
Massachusetts	4.26%	2.37%	0.65	0.99	$92	$2	$0.09
Michigan	4.21%	3.50%	0.59	0.93	$993	$9	$0.24
Minnesota	1.47%	1.72%	0.80	0.97	$389	$22	$0.32
Mississippi	0.54%	1.07%	0.98	1.00	$680	$18	$0.30
Missouri	1.62%	1.89%	0.76	1.00	$208	$7	$0.14
Montana	0.95%	0.32%	0.78	0.95	$118	$2	$0.20
Nebraska	2.58%	0.54%	0.35	0.78	$75	$1	$0.31
Nevada	0.24%	0.62%	0.57	0.75	$45	$5	$0.11
New Hampshire	2.53%	0.48%	0.16	0.89	$62	$2	$0.18
New Jersey	3.55%	3.36%	0.30	0.90	$1,067	$18	$0.36
New Mexico	0.77%	0.53%	0.22	0.73	$25	$3	$0.20
New York	8.48%	5.81%	0.69	0.92	$3,541	$9	$0.38
North Carolina	0.86%	2.83%	0.82	0.97	$1,047	$24	$0.22
North Dakota	0.88%	0.22%	0.09	1.00	$10	$2	$0.16
Ohio	2.89%	4.41%	0.76	0.97	$628	$17	$0.22
Oklahoma	1.24%	1.01%	0.69	0.96	$352	$5	$0.27
Oregon	1.41%	1.17%	0.34	0.76	$497	$26	$0.49
Pennsylvania	5.02%	4.47%	0.78	0.93	$804	$3	$0.12
Rhode Island	0.58%	0.50%	0.56	0.86	$70	$3	$0.09
South Carolina	0.46%	1.46%	0.70	1.00	$50	$10	$0.09
South Dakota	1.26%	0.16%	0.16	0.82	$15	$1	$0.14
Tennessee	1.57%	3.24%	0.76	0.96	$531	$6	$0.10
Texas	5.35%	6.54%	0.36	0.92	$1,373	$12	$0.20
Utah	0.64%	0.71%	0.36	0.90	$155	$10	$0.14
Vermont	2.23%	0.23%	0.40	0.54	$63	$1	$0.31
Virginia	1.02%	2.57%	0.66	0.97	$1,303	$26	$0.33
Washington	0.80%	2.10%	0.68	0.70	$780	$34	$0.26
West Virginia	1.12%	0.71%	0.99	1.00	$189	$2	$0.11
Wisconsin	4.30%	2.02%	0.31	0.94	$701	$10	$0.31
Wyoming	0.27%	0.19%	1.00	1.00	$69	$3	$0.16
Total	100.00%	100%	0.52	0.92	$27,601	$10	$0.22

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
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(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Fraction of library systems funded is out of those that applied.
(5) People refers to the population served by the library as reported in the NCES data.
(6) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's Public Library Survey for 1996.

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Table A.67
Library Systems
by Poverty and Urban Location in Year 1
Fraction Applying and Dollars Committed per Student

Percent of Service Population Poor		Urban Location Urban	 Suburban	 Rural	Total
Less than 9%	Fraction	0.72	0.58	0.43	0.52
	$ per Person	*$0.10*	*$0.19*	*$0.19*	*$0.18*
9 to < 15%	Fraction	0.68	0.60	0.43	0.47
	$ per Person	*$0.24*	*$0.17*	*$0.21*	*$0.20*
15 to < 22%	Fraction	0.68	0.55	0.45	0.49
	$ per Person	*$0.24*	*$0.25*	*$0.24*	*$0.25*
22% or more	Fraction	0.72	0.54	0.50	0.54
	$ per Person	*$0.37*	*$0.55*	*$0.32*	*$0.37*
Total	Fraction	0.70	0.58	0.44	0.50
	$ per Person	*$0.29*	*$0.21*	*$0.25*	*$0.25*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The Urban/Rural distinction used here is similar to, but not the same as, the SLD definition used to determine the E-Rate discounts.
(5) The service area used here is not the area used to calculate E-Rate discounts.
(6) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal
Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics,
Public Library Survey for 1996.
Poverty and Urban Location for libraries comes from 1994 data provided by the American Library Association.

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Table A.68
Library Systems
by Poverty and Urban Location in Year 2
Fraction Applying and Dollars Committed per Student

Percent of Service Population Poor		Urban Location Urban	Suburban	Rural	Total
Less than 9%	Fraction	0.63	0.56	0.43	0.51
	$ per Person	*$0.10*	*$0.15*	*$0.20*	*$0.15*
9 to < 15%	Fraction	0.72	0.60	0.45	0.49
	$ per Person	*$0.43*	*$0.14*	*$0.25*	*$0.23*
15 to < 22%	Fraction	0.74	0.59	0.52	0.55
	$ per Person	*$0.23*	*$0.20*	*$0.20*	*$0.21*
22% or more	Fraction	*$0.69*	*$0.57*	*$0.54*	*$0.57*
	$ per Person	*$0.32*	*$0.26*	*$0.27*	*$0.30*
Total	Fraction	0.71	0.58	0.47	0.52
	$ per Person	*$0.29*	*$0.16*	*$0.23*	*$0.22*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The Urban/Rural distinction used here is similar to, but not the same as, the SLD definition used to determine the E-Rate discounts.
(5) The service area used here is not the area used to calculate E-Rate discounts.
(6) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal
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Public Library Survey for 1996.
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Table A.69
Library Systems
by Poverty and District Size in Year 1
Fraction Applying and Dollars Committed per Student

Percent of Service Population Poor		Population of Legal Service Area						
		Less than 5,000	5,000-24.999	25,000-99,999	100,000-499.999	500,000-999,999	Over 1 Million	Total
Less than 9%	Fraction	0.35	0.60	0.65	0.64	0.85	1.00	0.52
	$ per Person	*$0.39*	*$0.17*	*$0.14*	*$0.22*	*$0.17*	.	*$0.18*
9 to < 15%	Fraction	0.35	0.59	0.62	0.81	0.86	0.67	0.47
	$ per Person	*$0.52*	*$0.23*	*$0.15*	*$0.15*	*$0.16*	*$0.35*	*$0.20*
15 to < 22%	Fraction	0.32	0.54	0.66	0.83	0.85	0.80	0.49
	$ per Person	*$0.75*	*$0.27*	*$0.26*	*$0.20*	*$0.38*	*$0.06*	*$0.25*
22% or more	Fraction	0.28	0.52	0.71	0.84	0.92	0.86	*$0.54*
	$ per Person	*$1.07*	*$0.37*	*$0.34*	*$0.37*	*$0.82*	*$0.19*	*$0.37*
Total	Fraction	0.34	0.58	0.66	0.79	0.87	0.79	0.50
	$ per Person	*$0.55*	*$0.23*	*$0.22*	*$0.23*	*$0.33*	*$0.21*	*$0.25*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium)
(4) The service area used here is not the area used to calculate E-Rate discounts.
(5) A "." means that no library in this category was funded directly.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Poverty for libraries comes from 1994 data provided by the American Library Association.

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Table A.70
Library Systems
by Poverty and District Size in Year 2
Fraction Applying and Dollars Committed per Student

Percent of Service Population Poor		Population of Legal Service Area Less than 5,000	5,000-24,999	25,000-99,999	100,000-499,999	500,000-999,999	Over 1 Million	Total
Less than 9%	Fraction	0.35	0.58	0.65	0.66	1.00	1.00	0.51
	$ per Person	*$0.39*	*$0.17*	*$0.12*	*$0.16*	*$0.14*		*$0.15*
9 to < 15%	Fraction	0.38	0.59	0.61	0.86	1.00	1.00	0.49
	$ per Person	*$0.53*	*$0.22*	*$0.16*	*$0.20*	*$0.17*	*$0.39*	*$0.23*
15 to < 22%	Fraction	0.41	0.59	0.68	0.80	0.85	0.80	0.55
	$ per Person	*$0.65*	*$0.25*	*$0.23*	*$0.20*	*$0.27*	*$0.09*	*$0.21*
22% or more	Fraction	0.36	0.54	0.70	0.80	0.92	1.00	*$0.57*
	$ per Person	*$0.67*	*$0.39*	*$0.26*	*$0.28*	*$0.79*	*$0.09*	*$0.30*
Total	Fraction	0.38	0.58	0.66	0.79	0.94	0.95	0.52
	$ per Person	*$0.53*	*$0.23*	*$0.19*	*$0.21*	*$0.27*	*$0.20*	*$0.22*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium)
(4) The service area used here is not the area used to calculate E-Rate discounts.
(5) A "." means that no library in this category was funded directly.
(6) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

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Poverty for libraries comes from 1994 data provided by the American Library Association.

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Table A.71
Library Systems
by Size and Urban Location in Year 1
Fraction Applying and Dollars Committed per Student

Population of Legal Service Area		Urban Location Urban	 Suburban	 Rural	Total
Less than 5,000	Fraction	0.29	0.45	0.32	0.34
	$ per Person	*$0.53*	*$0.35*	*$0.61*	*$0.55*
5,000 to 24,999	Fraction	0.74	0.59	0.56	0.58
	$ per Person	*$0.20*	*$0.19*	*$0.27*	*$0.23*
25,000 to 99,999	Fraction	0.69	0.62	0.68	0.66
	$ per Person	*$0.22*	*$0.17*	*$0.26*	*$0.22*
100,000 to 499,999	Fraction	0.82	0.74	0.88	0.79
	$ per Person	*$0.27*	*$0.25*	*$0.11*	*$0.23*
500,000 to 999,999	Fraction	0.83	0.88	1.00	0.87
	$ per Person	*$0.49*	*$0.20*	*$0.16*	*$0.33*
Over 1 Million	Fraction	0.80	0.75	.	0.79
	$ per Person	*$0.22*	*$0.13*	.	*$0.21*
Total	Fraction	0.70	0.58	0.44	0.50
	$ per Person	*$0.29*	*$0.21*	*$0.25*	*$0.25*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) A "." means that no library in this category was funded directly.
(5) The Urban/Rural distinction used here is similar to, but not the same as, the SLD definition used to determine the E-Rate discounts.
(6) The service area used here is not the area used to calculate E-Rate discounts.
(7) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal
Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics,
Public Library Survey for 1996.
Urban Location for libraries comes from 1994 data provided by the American Library Association.

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Table A.72
Library Systems
by Size and Urban Location in Year 2
Fraction Applying and Dollars Committed per Student

Population of Legal Service Area		Urban Location Urban	Suburban	Rural	Total
Less than 5,000	Fraction	0.66	0.44	0.36	0.38
	$ per Person	*$0.53*	*$0.37*	*$0.57*	*$0.53*
5,000 to 24,999	Fraction	0.68	0.57	0.58	0.58
	$ per Person	*$0.30*	*$0.23*	*$0.23*	*$0.23*
25,000 to 99,999	Fraction	0.63	0.63	0.69	0.66
	$ per Person	*$0.25*	*$0.15*	*$0.20*	*$0.19*
100,000 to 499,999	Fraction	0.77	0.78	0.87	0.79
	$ per Person	*$0.24*	*$0.18*	*$0.24*	*$0.21*
500,000 to 999,999	Fraction	0.93	0.96	1.00	0.94
	$ per Person	*$0.38*	*$0.16*	.	*$0.27*
Over 1 Million	Fraction	0.92	1.00	1.00	0.95
	$ per Person	*$0.30*	*$0.07*	*$0.07*	*$0.20*
Total	Fraction	0.71	0.58	0.47	0.52
	$ per Person	*$0.29*	*$0.16*	*$0.23*	*$0.22*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium)
(4) A "." means that no library in this category was funded directly.
(5) The Urban/Rural distinction used here is similar to, but not the same as, the SLD definition used to determine the E-Rate discounts.
(6) The service area used here is not the area used to calculate E-Rate discounts.
(7) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal
Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics,
Public Library Survey for 1996.
Urban Location for libraries comes from 1994 data provided by the American Library Association.

The Urban Institute

Table A.73
Library Systems
by Urban Location and Type of Service in Year 1
Fraction Applying and Dollars Committed per Student

Urban Location		Type of Service Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Urban	Fraction	0.66	0.36	0.38	0.70
	$ per Person	*$0.18*	*$0.28*	*$0.05*	*$0.29*
Suburban	Fraction	0.55	0.28	0.31	0.58
	$ per Person	*$0.16*	*$0.20*	*$0.07*	*$0.21*
Rural	Fraction	0.42	0.15	0.18	0.44
	$ per Person	*$0.19*	*$0.34*	*$0.10*	*$0.25*
Total	Fraction	0.47	0.20	0.23	0.50
	$ per Person	*$0.17*	*$0.27*	*$0.07*	*$0.25*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Urban Location for libraries comes from1994 data provided by the American Library Association.

The Urban Institute

Table A.74
Library Systems
by Urban Location and Type of Service in Year 2
Fraction Applying and Dollars Committed per Student

Urban Location		Type of Service			Total
		Telecom & Dedicated Services	Internal Connections	Internet Access	
Urban	Fraction	0.68	0.28	0.46	0.71
	$ per Person	*$0.17*	*$0.27*	*$0.05*	*$0.29*
Suburban	Fraction	0.55	0.18	0.36	0.58
	$ per Person	*$0.12*	*$0.14*	*$0.06*	*$0.16*
Rural	Fraction	0.45	0.10	0.26	0.47
	$ per Person	*$0.16*	*$0.28*	*$0.10*	*$0.23*
Total	Fraction	0.49	0.14	0.30	0.52
	$ per Person	*$0.15*	*$0.23*	*$0.06*	*$0.22*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) Dedicated Services refers to telecommunication services that are specific to a library.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Urban Location for libraries comes from1994 data provided by the American Library Association.

The Urban Institute

Table A.75
Library Systems
by Size and Type of Service in Year 1
Fraction Applying and Dollars Committed per Student

Population of Legal Service Area		Type of Service			Total
		Telecom & Dedicated Services	Internal Connections	Internet Access	
Less than 5,000	Fraction	0.31	0.08	0.14	0.33
	$ per Person	*$0.44*	*$1.79*	*$0.25*	*$0.56*
5,000 - 24,999	Fraction	0.55	0.23	0.25	0.57
	$ per Person	*$0.19*	*$0.46*	*$0.14*	*$0.24*
25,000 - 99,999	Fraction	0.62	0.34	0.33	0.65
	$ per Person	*$0.16*	*$0.28*	*$0.10*	*$0.22*
100,000 - 499,999	Fraction	0.75	0.45	0.49	0.79
	$ per Person	*$0.16*	*$0.26*	*$0.07*	*$0.23*
500,000 - 999,999	Fraction	0.85	0.75	0.65	0.87
	$ per Person	*$0.21*	*$0.43*	*$0.04*	*$0.32*
Over 1 Million	Fraction	0.80	0.65	0.55	0.80
	$ per Person	*$0.13*	*$0.16*	*$0.02*	*$0.21*
Total	Fraction	0.46	0.20	0.23	0.49
	$ per Person	*$0.17*	*$0.28*	*$0.07*	*$0.25*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The service area used here is not the area used to calculate E-Rate discounts.
(5) Dedicated Services refers to telecommunication services that are specific to a library.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.

The Urban Institute

Table A.76
Library Systems
by Size and Type of Service in Year 2
Fraction Applying and Dollars Committed per Student

Population of Legal Service Area		Type of Service Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Less than 5,000	Fraction	0.35	0.06	0.18	0.37
	$ per Person	*$0.40*	*$1.14*	*$0.29*	*$0.54*
5,000 - 24,999	Fraction	0.55	0.17	0.34	0.57
	$ per Person	*$0.16*	*$0.40*	*$0.14*	*$0.24*
25,000 - 99,999	Fraction	0.62	0.21	0.41	0.65
	$ per Person	*$0.12*	*$0.26*	*$0.09*	*$0.19*
100,000 - 499,999	Fraction	0.72	0.26	0.59	0.79
	$ per Person	*$0.14*	*$0.19*	*$0.05*	*$0.21*
500,000 - 999,999	Fraction	0.94	0.56	0.67	0.94
	$ per Person	*$0.16*	*$0.26*	*$0.05*	*$0.27*
Over 1 Million	Fraction	0.85	0.55	0.50	0.95
	$ per Person	*$0.13*	*$0.22*	*$0.01*	*$0.20*
Total	Fraction	0.48	0.13	0.30	0.51
	$ per Person	*$0.15*	*$0.23*	*$0.06*	*$0.22*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The service area used here is not the area used to calculate E-Rate discounts.
(5) Dedicated Services refers to telecommunication services that are specific to a library.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.

The Urban Institute

Table A.77
Library Systems
by Poverty and Type of Service in Year 1
Fraction Applying and Dollars Committed per Student

Percent of Service Area Population Poor		Type of Service			Total
		Telecom & Dedicated Services	Internal Connections	Internet Access	
Less than 9%	Fraction	0.49	0.22	0.25	0.52
	$ per Person	*$0.15*	*$0.18*	*$0.07*	*$0.18*
9 to <15%	Fraction	0.44	0.16	0.21	0.47
	$ per Person	*$0.16*	*$0.13*	*$0.04*	*$0.20*
15 to < 22%	Fraction	0.46	0.18	0.22	0.49
	$ per Person	*$0.19*	*$0.20*	*$0.06*	*$0.24*
22% or more	Fraction	0.50	0.28	0.25	0.54
	$ per Person	*$0.19*	*$0.35*	*$0.10*	*$0.37*
Total	Fraction	0.47	0.20	0.23	0.50
	$ per Person	*$0.17*	*$0.27*	*$0.07*	*$0.25*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The service area used here is not the area used to calculate E-Rate discounts.
(5) Dedicated Services refers to telecommunication services that are specific to a library.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Poverty for libraries comes from 1994 data provided by the American Library Association.

The Urban Institute

Table A.78
Library Systems
by Poverty and Type of Service in Year 2
Fraction Applying and Dollars Committed per Student

Percent of Service Area Population Poor		Type of Service			Total
		Telecom & Dedicated Services	Internal Connections	Internet Access	
Less than 9%	Fraction	0.48	0.14	0.30	0.51
	$ per Person	*$0.13*	*$0.10*	*$0.05*	*$0.15*
9 to <15%	Fraction	0.46	0.11	0.26	0.49
	$ per Person	*$0.15*	*$0.26*	*$0.04*	*$0.23*
15 to < 22%	Fraction	0.52	0.15	0.33	0.55
	$ per Person	*$0.15*	*$0.17*	*$0.08*	*$0.21*
22% or more	Fraction	0.53	0.19	0.37	0.57
	$ per Person	*$0.16*	*$0.30*	*$0.08*	*$0.30*
Total	Fraction	0.49	0.14	0.30	0.52
	$ per Person	*$0.15*	*$0.23*	*$0.06*	*$0.22*

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(4) The service area used here is not the area used to calculate E-Rate discounts.
(5) Dedicated Services refers to telecommunication services that are specific to a library.
(6) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.
Poverty for libraries comes from 1994 data provided by the American Library Association.

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Table A.79
Library Systems
by State and Type of Service in Year 1
Dollars Committed per Person

	Type of Service			
State	Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Alabama	$0.36	$0.14	$0.14	$0.42
Alaska	$0.58	$20.77	$0.18	$0.75
Arizona	$0.06	$0.15	$0.04	$0.13
Arkansas	$0.07	$0.21	$0.02	$0.12
California	$0.08	$0.11	$0.03	$0.11
Colorado	$0.18	$2.49	$0.01	$0.19
Connecticut	$0.16	$0.25	$0.12	$0.28
Delaware	$0.20	$0.23	$0.00	$0.22
District of Columbia	$0.69	$0.20	$0.06	$0.94
Florida	$0.20	$0.34	$0.04	$0.32
Georgia	$0.19	$0.33	$0.10	$0.29
Hawaii	$0.04	$0.00	$0.00	$0.04
Idaho	$0.18	$0.06	$0.07	$0.21
Illinois	$0.25	$0.03	$0.14	$0.26
Indiana	$0.35	$0.09	$0.13	$0.37
Iowa	$0.14	$5.09	$0.09	$0.18
Kansas	$0.23	$0.14	$0.17	$0.32
Kentucky	$0.18	$0.21	$0.08	$0.31
Louisiana	$0.29	$0.42	$0.09	$0.48
Maine	$0.12	$1.05	$0.13	$0.19
Maryland	$0.24	$0.26	$0.07	$0.30
Massachusetts	$0.12	$0.22	$0.01	$0.14
Michigan	$0.15	$0.27	$0.21	$0.31
Minnesota	$0.08	$0.00	$0.00	$0.08
Mississippi	$0.23	$0.11	$0.20	$0.40
Missouri	$0.18	$0.31	$0.06	$0.19
Montana	$0.14	$0.00	$0.09	$0.19
Nebraska	$0.29	$1.38	$0.15	$0.32
Nevada	$0.12	$0.00	$0.17	$0.12
New Hampshire	$0.20	$0.00	$0.07	$0.20
New Jersey	$0.17	$0.42	$0.09	$0.30
New Mexico	$0.14	$0.23	$0.04	$0.19
New York	$0.23	$0.17	$0.02	$0.30
North Carolina	$0.17	$0.20	$0.07	$0.20
North Dakota	$0.10	$0.47	$0.03	$0.12
Ohio	$0.24	$0.26	$0.16	$0.29
Oklahoma	$0.20	$0.44	$0.03	$0.28
Oregon	$0.10	$0.71	$0.04	$0.14
Pennsylvania	$0.10	$0.09	$0.04	$0.12
Rhode Island	$0.12	$0.30	$0.00	$0.21
South Carolina	$0.08	$0.00	$0.00	$0.08
South Dakota	$0.16	$0.10	$0.27	$0.24
Tennessee	$0.04	$0.10	$0.01	$0.05
Texas	$0.10	$0.13	$0.06	$0.19
Utah	$0.18	$0.05	$0.09	$0.23
Vermont	$0.37	$1.10	$0.03	$0.49
Virginia	$0.24	$0.14	$0.09	$0.30
Washington	$0.28	$1.59	$0.05	$0.36
West Virginia	$0.16	$0.14	$0.00	$0.16
Wisconsin	$0.30	$2.20	$0.03	$0.89
Wyoming	$0.16	$0.00	$0.02	$0.17
Average	$0.35	$0.27	$0.07	$0.25

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996

The Urban Institute

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Table A.80
Library Systems
by State and Type of Service in Year 2
Dollars Committed per Person

State	Type of Service			Total
	Telecom & Dedicated Services	Internal Connections	Internet Access	
Alabama	$0.22	$0.04	$0.12	$0.28
Alaska	$0.41	$21.84	$0.17	$0.68
Arizona	$0.12	$0.05	$0.02	$0.16
Arkansas	$0.04	$0.19	$0.00	$0.05
California	$0.08	$0.26	$0.05	$0.14
Colorado	$0.14	$0.04	$0.03	$0.17
Connecticut	$0.17	$0.45	$0.11	$0.28
Delaware	$0.31	$0.00	$0.00	$0.31
District of Columbia	$0.57	$0.00	$0.10	$0.67
Florida	$0.12	$0.12	$0.03	$0.17
Georgia	$0.18	$0.23	$0.11	$0.34
Hawaii	$0.07	$0.00	$0.00	$0.07
Idaho	$0.15	$0.51	$0.09	$0.22
Illinois	$0.16	$0.12	$0.08	$0.17
Indiana	$0.18	$0.12	$0.11	$0.25
Iowa	$0.16	$0.67	$0.08	$0.19
Kansas	$0.24	$0.14	$0.13	$0.27
Kentucky	$0.17	$0.10	$0.08	$0.27
Louisiana	$0.10	$0.02	$0.54	$0.13
Maine	$0.18	$0.36	$0.00	$0.32
Maryland	$0.18	$0.65	$0.10	$0.43
Massachusetts	$0.08	$0.06	$0.08	$0.09
Michigan	$0.12	$0.20	$0.11	$0.24
Minnesota	$0.31	$0.04	$0.00	$0.32
Mississippi	$0.17	$0.03	$0.16	$0.30
Missouri	$0.10	$1.02	$0.04	$0.14
Montana	$0.12	$0.07	$0.10	$0.20
Nebraska	$0.24	$0.32	$0.13	$0.31
Nevada	$0.10	$0.03	$0.01	$0.11
New Hampshire	$0.13	$0.75	$0.05	$0.18
New Jersey	$0.24	$0.33	$0.06	$0.36
New Mexico	$0.15	$0.00	$0.05	$0.20
New York	$0.25	$0.37	$0.03	$0.38
North Carolina	$0.17	$0.18	$0.06	$0.22
North Dakota	$0.15	$0.00	$0.04	$0.16
Ohio	$0.21	$0.30	$0.09	$0.22
Oklahoma	$0.21	$0.21	$0.09	$0.27
Oregon	$0.16	$0.35	$0.03	$0.49
Pennsylvania	$0.09	$0.17	$0.05	$0.12
Rhode Island	$0.08	$0.06	$0.05	$0.09
South Carolina	$0.08	$0.01	$0.00	$0.09
South Dakota	$0.12	$0.01	$0.08	$0.14
Tennessee	$0.05	$0.27	$0.02	$0.10
Texas	$0.10	$0.30	$0.05	$0.20
Utah	$0.10	$0.00	$0.05	$0.14
Vermont	$0.23	$0.31	$0.05	$0.31
Virginia	$0.16	$0.29	$0.11	$0.33
Washington	$0.22	$0.09	$0.03	$0.26
West Virginia	$0.11	$0.00	$0.38	$0.11
Wisconsin	$0.26	$0.15	$0.02	$0.31
Wyoming	$0.15	$0.30	$0.02	$0.16
Average	$0.15	$0.23	$0.06	$0.22

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) $ per person is only for libraries that received funding directly for the specified service.
(3) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's National Center for Education Statistics, Public Library Survey for 1996.

The Urban Institute

Table A.81
Library Systems
by State and Type of Service in Year 1
Fraction Applying

State	Type of Service			Total
	Telecom & Dedicated Services	Internal Connections	Internet Access	
Alabama	0.47	0.08	0.16	0.48
Alaska	0.27	0.05	0.08	0.27
Arizona	0.50	0.39	0.18	0.50
Arkansas	0.34	0.17	0.26	0.37
California	0.52	0.24	0.23	0.56
Colorado	0.55	0.25	0.14	0.56
Connecticut	0.48	0.23	0.23	0.49
Delaware	0.63	0.15	0.00	0.63
District of Columbia	1.00	1.00	1.00	1.00
Florida	0.65	0.49	0.25	0.68
Georgia	0.94	0.35	0.43	0.94
Hawaii	1.00	0.00	0.00	1.00
Idaho	0.30	0.11	0.21	0.31
Illinois	0.55	0.26	0.12	0.57
Indiana	0.60	0.20	0.15	0.61
Iowa	0.33	0.09	0.14	0.35
Kansas	0.27	0.04	0.09	0.28
Kentucky	0.41	0.14	0.19	0.41
Louisiana	0.77	0.75	0.26	0.92
Maine	0.07	0.04	0.00	0.09
Maryland	0.71	0.46	0.33	0.75
Massachusetts	0.54	0.50	0.50	0.58
Michigan	0.57	0.23	0.30	0.62
Minnesota	0.79	0.07	0.35	0.79
Mississippi	0.96	0.89	0.91	0.96
Missouri	0.39	0.73	0.71	0.74
Montana	0.45	0.11	0.37	0.51
Nebraska	0.35	0.07	0.06	0.35
Nevada	0.71	0.10	0.05	0.71
New Hampshire	0.14	0.03	0.01	0.15
New Jersey	0.28	0.13	0.07	0.29
New Mexico	0.31	0.04	0.30	0.39
New York	0.68	0.30	0.43	0.71
North Carolina	0.59	0.23	0.53	0.76
North Dakota	0.14	0.05	0.05	0.16
Ohio	0.77	0.20	0.70	0.79
Oklahoma	0.50	0.25	0.21	0.50
Oregon	0.25	0.08	0.12	0.25
Pennsylvania	0.67	0.26	0.22	0.68
Rhode Island	0.48	0.30	0.20	0.54
South Carolina	0.80	0.80	0.78	0.83
South Dakota	0.14	0.06	0.06	0.15
Tennessee	0.63	0.16	0.24	0.70
Texas	0.27	0.10	0.08	0.28
Utah	0.36	0.09	0.13	0.42
Vermont	0.41	0.02	0.27	0.41
Virginia	0.64	0.25	0.24	0.64
Washington	0.48	0.19	0.30	0.48
West Virginia	0.99	0.20	0.18	0.99
Wisconsin	0.28	0.08	0.12	0.30
Wyoming	0.48	0.17	0.13	0.48
Total	0.47	0.20	0.23	0.50

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000.
(2) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium).
(3) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate information from the Schools and Libraries Division of the Universal Service Administrative Company.
Library data come from the U.S. Department of Education's Public Library Survey for 1996.

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Table A.82
Library Systems
by State and Type of Service in Year 2
Fraction Applying

	Type of Service			
State	Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Alabama	0.44	0.11	0.29	0.47
Alaska	0.34	0.04	0.23	0.34
Arizona	0.55	0.39	0.26	0.61
Arkansas	0.43	0.09	0.29	0.43
California	0.56	0.16	0.32	0.57
Colorado	0.50	0.07	0.28	0.50
Connecticut	0.42	0.04	0.06	0.43
Delaware	0.56	0.00	0.00	0.56
District of Columbia	1.00	1.00	1.00	1.00
Florida	0.72	0.30	0.23	0.73
Georgia	0.96	0.24	0.93	0.96
Hawaii	1.00	0.00	0.00	1.00
Idaho	0.35	0.04	0.20	0.35
Illinois	0.53	0.21	0.29	0.54
Indiana	0.53	0.08	0.16	0.54
Iowa	0.38	0.04	0.15	0.39
Kansas	0.29	0.04	0.17	0.31
Kentucky	0.36	0.07	0.29	0.37
Louisiana	0.71	0.35	0.77	0.88
Maine	0.14	0.05	0.00	0.15
Maryland	0.83	0.21	0.33	0.88
Massachusetts	0.59	0.47	0.62	0.65
Michigan	0.52	0.08	0.38	0.59
Minnesota	0.59	0.24	0.69	0.80
Mississippi	0.94	0.45	0.85	0.98
Missouri	0.73	0.72	0.71	0.76
Montana	0.78	0.06	0.60	0.78
Nebraska	0.34	0.02	0.13	0.35
Nevada	0.57	0.05	0.14	0.57
New Hampshire	0.15	0.01	0.05	0.16
New Jersey	0.27	0.09	0.14	0.30
New Mexico	0.22	0.04	0.18	0.22
New York	0.69	0.21	0.35	0.69
North Carolina	0.70	0.14	0.61	0.82
North Dakota	0.09	0.01	0.04	0.09
Ohio	0.73	0.08	0.70	0.76
Oklahoma	0.66	0.14	0.42	0.69
Oregon	0.33	0.07	0.20	0.34
Pennsylvania	0.75	0.15	0.34	0.78
Rhode Island	0.56	0.06	0.08	0.56
South Carolina	0.25	0.03	0.70	0.70
South Dakota	0.16	0.02	0.09	0.16
Tennessee	0.74	0.26	0.48	0.76
Texas	0.34	0.06	0.12	0.36
Utah	0.33	0.00	0.20	0.36
Vermont	0.40	0.03	0.25	0.40
Virginia	0.66	0.25	0.27	0.66
Washington	0.68	0.10	0.36	0.68
West Virginia	0.99	0.19	0.93	0.99
Wisconsin	0.29	0.05	0.18	0.31
Wyoming	0.91	0.22	0.87	1.00
Total	0.49	0.14	0.30	0.52

NOTES:
(1) This table provides information on funding commitments made by January 4, 2000
(2) Libraries are counted as applying if they applied directly (as a billed entity) or indirectly (as part of a consortium)
(3) Totals do not always match across tables because of missing values for the variables
urban location, size, fraction minority, and poverty

DATA SOURCES:
E-Rate information from the Schools and Libraries Division of the Universal Service Administrative Company
Library data come from the U.S. Department of Education's Public Library Survey for 1996

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Table A.83
E-Rate Funding Totals
by State and Type of Service in Year 1
Dollars Committed Per Thousand People

State	Type of Service			Total
	Telecom & Dedicated Services	Internal Connections	Internet Access	
Alaska	$14,812	$4,400	$2,755	$21,967
Alabama	$2,043	$8,261	$475	$10,779
Arkansas	$1,762	$2,153	$1,404	$5,319
Arizona	$1,757	$4,771	$1,104	$7,632
California	$1,666	$4,580	$139	$6,384
Colorado	$2,204	$1,246	$153	$3,602
Connecticut	$2,841	$4,175	$378	$7,393
District of Columbia	$6,225	$2,858	$222	$9,305
Delaware	$1,292	$19	$56	$1,367
Florida	$1,749	$1,291	$276	$3,317
Georgia	$2,315	$6,968	$996	$10,279
Hawaii	$794	$3,580	$565	$4,938
Iowa	$1,555	$644	$378	$2,577
Idaho	$1,864	$1,648	$247	$3,760
Illinois	$2,528	$3,889	$305	$6,722
Indiana	$1,701	$940	$514	$3,154
Kansas	$2,782	$691	$490	$3,963
Kentucky	$3,817	$8,631	$345	$12,793
Louisiana	$2,082	$6,368	$742	$9,192
Massachusetts	$2,099	$2,455	$369	$4,923
Maryland	$2,205	$547	$175	$2,926
Maine	$1,357	$950	$103	$2,411
Michigan	$2,809	$2,828	$322	$5,958
Minnesota	$3,194	$1,821	$220	$5,235
Missouri	$2,406	$1,239	$936	$4,581
Mississippi	$3,668	$7,275	$971	$11,914
Montana	$2,442	$1,207	$523	$4,172
North Carolina	$1,835	$1,401	$302	$3,538
North Dakota	$2,330	$1,440	$254	$4,025
Nebraska	$2,542	$154	$267	$2,963
New Hampshire	$998	$254	$114	$1,367
New Jersey	$2,238	$5,259	$229	$7,726
New Mexico	$3,495	$6,949	$672	$11,116
Nevada	$2,181	$873	$26	$3,080
New York	$4,448	$4,159	$743	$9,350
Ohio	$1,762	$2,895	$529	$5,187
Oklahoma	$2,654	$6,238	$1,126	$10,018
Oregon	$2,029	$709	$170	$2,908
Pennsylvania	$1,688	$1,783	$172	$3,643
Puerto Rico	$9,154	$3,160	$50	$12,363
Rhode Island	$1,631	$4,014	$438	$6,083
South Carolina	$3,253	$3,485	$128	$6,865
South Dakota	$2,019	$1,549	$654	$4,222
Tennessee	$2,899	$2,135	$4,480	$9,513
Texas	$2,103	$4,274	$192	$6,569
Utah	$2,042	$288	$710	$3,041
Virginia	$2,406	$1,018	$300	$3,723
Vermont	$2,581	$655	$273	$3,508
Washington	$2,738	$2,221	$215	$5,175
Wisconsin	$2,538	$4,508	$273	$7,320
West Virginia	$1,900	$2,037	$1,219	$5,156
Wyoming	$1,525	$921	$118	$2,565
Other	$3,060	$10,043	$2,143	$15,245
Average	$2,495	$3,388	$489	$6,371

NOTES:
(1) This table covers all applications, including those not matched to NCES data.
(2) Per person is total funds divided by estimates of total state populations.
(3) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.
(4) This table shows funding commitments made by January 4, 2000.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Population data by year for the 50 States and the District of Columbia are from the U.S. Census Bureau.
Data for Puerto Rico and the other dependencies were estimated by applying the U.S. population growth rates since 1990
from the U.S. Census Bureau to 1990 population figures from the U.S. State Department.

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Table A.84
E-Rate Funding Totals
by State and Type of Service in Year 2
Dollars Committed Per Thousand People

State	Type of Service Telecom & Dedicated Services	Internal Connections	Internet Access	Total
Alaska	$12,822	$5,718	$1,007	$19,547
Alabama	$1,490	$3,768	$757	$6,015
Arkansas	$1,771	$1,326	$1,013	$4,110
Arizona	$1,283	$6,349	$277	$7,909
California	$1,508	$5,806	$277	$7,592
Colorado	$1,564	$931	$154	$2,650
Connecticut	$1,914	$7,380	$485	$9,778
District of Columbia	$7,579	$9,539	$876	$17,994
Delaware	$1,700	$319	$60	$2,080
Florida	$1,774	$2,498	$362	$4,634
Georgia	$2,507	$8,575	$596	$11,678
Hawaii	$1,302	$2,985	$173	$4,460
Iowa	$1,157	$1,323	$310	$2,789
Idaho	$1,483	$2,314	$295	$4,092
Illinois	$2,052	$10,982	$291	$13,326
Indiana	$1,935	$1,582	$325	$3,841
Kansas	$1,741	$2,854	$565	$5,160
Kentucky	$3,252	$10,653	$359	$14,264
Louisiana	$2,167	$5,192	$1,141	$8,501
Massachusetts	$1,953	$3,263	$255	$5,471
Maryland	$2,075	$2,021	$158	$4,254
Maine	$1,539	$1,088	$193	$2,820
Michigan	$2,260	$5,192	$531	$7,984
Minnesota	$2,799	$3,008	$285	$6,092
Missouri	$1,887	$1,662	$1,680	$5,228
Mississippi	$4,328	$5,841	$733	$10,902
Montana	$2,028	$1,590	$645	$4,263
North Carolina	$1,920	$2,512	$498	$4,930
North Dakota	$2,040	$1,017	$368	$3,424
Nebraska	$3,195	$557	$311	$4,063
New Hampshire	$731	$154	$170	$1,055
New Jersey	$1,923	$2,983	$245	$5,151
New Mexico	$3,161	$13,154	$397	$16,713
Nevada	$876	$68	$51	$995
New York	$3,775	$5,901	$811	$10,487
Ohio	$1,470	$1,829	$426	$3,725
Oklahoma	$2,885	$5,974	$1,011	$9,870
Oregon	$1,841	$1,314	$179	$3,333
Pennsylvania	$1,537	$2,805	$293	$4,634
Puerto Rico	$4,334	$10,978	$2,137	$17,449
Rhode Island	$3,450	$4,044	$405	$7,900
South Carolina	$3,046	$5,197	$59	$8,302
South Dakota	$1,425	$1,027	$737	$3,189
Tennessee	$1,962	$5,704	$3,562	$11,228
Texas	$1,956	$4,423	$268	$6,647
Utah	$1,366	$228	$939	$2,533
Virginia	$1,791	$1,173	$262	$3,226
Vermont	$1,854	$338	$477	$2,668
Washington	$1,813	$3,483	$109	$5,404
Wisconsin	$2,470	$1,730	$570	$4,771
West Virginia	$1,400	$2,515	$1,274	$5,189
Wyoming	$3,891	$3,569	$376	$7,835
Other	$1,677	$8,295	$3,225	$13,196
Average	$2,149	$4,483	$535	$7,168

NOTES:
(1) This table covers all applications, including those not matched to NCES data.
(2) Per person is total funds divided by estimates of total state populations.
(3) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.
(4) This table shows funding commitments made by January 4, 2000.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.
Population data by year for the 50 States and the District of Columbia are from the U.S. Census Bureau.
Data for Puerto Rico and the other dependencies were estimated by applying the U.S. population growth rates since 1990
from the U.S. Census Bureau to 1990 population figures from the U.S. State Department.

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Table A.85
E-Rate Funding Totals
by State and Type of Service in Year 1
Total Dollars Committed

State	Type of Service Telecom & Dedicated Services	 Internal Connections	 Internet Access	Total
Alabama	$8,892,746	$35,952,617	$2,065,558	$46,910,920
Alaska	$9,094,322	$2,701,828	$1,691,739	$13,487,889
Arizona	$8,204,853	$22,274,884	$5,154,195	$35,633,932
Arkansas	$4,471,846	$5,463,790	$3,562,785	$13,498,421
California	$54,410,528	$149,599,951	$4,545,358	$208,555,837
Colorado	$8,750,400	$4,945,890	$607,531	$14,303,821
Connecticut	$9,300,875	$13,668,482	$1,236,565	$24,205,922
Delaware	$961,489	$13,806	$41,977	$1,017,272
District of Columbia	$3,255,597	$1,494,775	$116,200	$4,866,571
Florida	$26,089,187	$19,263,037	$4,123,244	$49,475,468
Georgia	$17,690,492	$53,251,249	$7,610,904	$78,552,646
Hawaii	$947,311	$4,270,409	$673,587	$5,891,308
Idaho	$2,291,035	$2,025,957	$303,948	$4,620,940
Illinois	$30,444,046	$46,846,818	$3,675,616	$80,966,481
Indiana	$10,031,897	$5,542,940	$3,032,571	$18,607,408
Iowa	$4,449,622	$1,843,460	$1,080,972	$7,374,055
Kansas	$7,312,725	$1,817,738	$1,288,832	$10,419,295
Kentucky	$15,025,030	$33,972,470	$1,357,485	$50,354,985
Louisiana	$9,097,048	$27,820,481	$3,242,779	$40,160,309
Maine	$1,688,593	$1,182,159	$128,069	$2,998,821
Maryland	$11,320,671	$2,808,617	$897,313	$15,026,602
Massachusetts	$12,903,209	$15,091,786	$2,268,533	$30,263,528
Michigan	$27,575,979	$27,758,383	$3,159,828	$58,490,005
Minnesota	$15,093,070	$8,604,648	$1,037,860	$24,735,578
Mississippi	$10,093,178	$20,020,664	$2,672,532	$32,786,374
Missouri	$13,087,920	$6,736,279	$5,090,548	$24,914,747
Montana	$2,148,838	$1,062,258	$459,989	$3,671,085
Nebraska	$4,226,892	$256,400	$443,566	$4,926,858
Nevada	$3,810,920	$1,525,148	$44,740	$5,380,808
New Hampshire	$1,183,095	$301,136	$135,616	$1,619,847
New Jersey	$18,157,762	$42,680,348	$1,861,580	$62,699,690
New Mexico	$6,070,542	$12,070,923	$1,167,432	$19,308,898
New York	$80,846,723	$75,587,083	$13,500,400	$169,934,206
North Carolina	$13,845,234	$10,571,123	$2,278,292	$26,694,648
North Dakota	$1,486,809	$918,891	$162,153	$2,567,852
Ohio	$19,755,712	$32,453,600	$5,927,384	$58,136,696
Oklahoma	$8,882,895	$20,878,343	$3,769,904	$33,531,142
Oregon	$6,658,646	$2,327,267	$558,209	$9,544,122
Pennsylvania	$20,257,607	$21,394,466	$2,065,416	$43,717,489
Puerto Rico	$35,277,911	$12,177,166	$191,778	$47,646,855
Rhode Island	$1,611,588	$3,966,163	$432,647	$6,010,398
South Carolina	$12,476,906	$13,366,701	$492,119	$26,335,726
South Dakota	$1,490,046	$1,143,338	$482,636	$3,116,020
Tennessee	$15,743,711	$11,593,160	$24,328,240	$51,665,111
Texas	$41,550,792	$84,455,651	$3,795,610	$129,802,054
Utah	$4,288,842	$605,617	$1,491,637	$6,386,095
Vermont	$1,525,260	$386,897	$161,172	$2,073,329
Virginia	$16,339,081	$6,910,321	$2,034,669	$25,284,072
Washington	$15,578,240	$12,637,622	$1,222,158	$29,438,019
West Virginia	$3,441,528	$3,689,346	$2,207,453	$9,338,327
Wisconsin	$13,260,245	$23,551,174	$1,428,106	$38,239,524
Wyoming	$733,674	$443,162	$56,788	$1,233,624
Other	$1,151,526	$3,779,696	$806,570	$5,737,792
Total	$674,284,694	$915,706,117	$132,172,795	$1,722,159,420

NOTES:

(1) This table covers all applications, including those not matched to NCES data.

(2) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.

(3) This table shows funding commitments made by January 4, 2000.

(4) These figures differ slightly from the numbers in Table 1 because funding by service differs slightly from total funding in the SLD data

(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty

DATA SOURCES:

E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company

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Table A.86
E-Rate Funding Totals
by State and Type of Service in Year 2
Total Dollars Committed

State	Type of Service			Total
	Telecom & Dedicated Services	Internal Connections	Internet Access	
Alabama	$6,510,048	$16,466,210	$3,307,547	$26,283,805
Alaska	$7,949,339	$3,545,455	$624,389	$12,119,183
Arizona	$6,131,994	$30,336,413	$1,321,323	$37,789,731
Arkansas	$4,518,472	$3,383,057	$2,583,582	$10,485,111
California	$49,978,180	$192,454,859	$9,191,624	$251,624,663
Colorado	$6,344,712	$3,777,139	$625,055	$10,746,906
Connecticut	$6,280,801	$24,220,746	$1,591,135	$32,092,682
Delaware	$1,282,174	$240,531	$45,436	$1,568,141
District of Columbia	$3,933,249	$4,950,853	$454,669	$9,338,771
Florida	$26,810,614	$37,745,249	$5,469,867	$70,025,730
Georgia	$19,526,414	$66,782,689	$4,639,123	$90,948,227
Hawaii	$1,542,591	$3,537,130	$205,254	$5,284,975
Idaho	$1,857,219	$2,896,997	$369,393	$5,123,609
Illinois	$24,889,329	$133,191,833	$3,535,178	$161,616,340
Indiana	$11,499,833	$9,400,542	$1,928,658	$22,829,033
Iowa	$3,318,440	$3,795,310	$888,735	$8,002,486
Kansas	$4,620,288	$7,574,673	$1,499,257	$13,694,218
Kentucky	$12,880,909	$42,195,070	$1,422,569	$56,498,549
Louisiana	$9,476,108	$22,700,932	$4,990,096	$37,167,136
Maine	$1,927,836	$1,363,409	$241,619	$3,532,865
Maryland	$10,733,298	$10,451,625	$817,981	$22,002,905
Massachusetts	$12,060,187	$20,146,228	$1,575,311	$33,781,726
Michigan	$22,297,425	$51,211,642	$5,241,883	$78,750,950
Minnesota	$13,366,993	$14,367,459	$1,362,866	$29,097,318
Mississippi	$11,983,124	$16,174,048	$2,029,223	$30,186,395
Missouri	$10,315,704	$9,087,312	$9,184,313	$28,587,328
Montana	$1,790,867	$1,404,084	$569,667	$3,764,617
Nebraska	$5,323,191	$927,382	$518,005	$6,768,579
Nevada	$1,584,112	$122,812	$92,298	$1,799,222
New Hampshire	$877,416	$185,336	$204,434	$1,267,186
New Jersey	$15,656,561	$24,291,274	$1,997,162	$41,944,998
New Mexico	$5,500,973	$22,887,376	$691,485	$29,079,834
New York	$68,700,874	$107,387,008	$14,750,617	$190,838,500
North Carolina	$14,692,266	$19,215,963	$3,807,794	$37,716,023
North Dakota	$1,293,308	$644,466	$233,320	$2,171,093
Ohio	$16,551,714	$20,584,478	$4,798,824	$41,935,016
Oklahoma	$9,688,681	$20,059,135	$3,394,675	$33,142,491
Oregon	$6,103,161	$4,357,938	$592,760	$11,053,859
Pennsylvania	$18,432,108	$33,641,183	$3,512,481	$55,585,771
Puerto Rico	$16,851,991	$42,683,867	$8,306,875	$67,842,733
Rhode Island	$3,419,141	$4,007,839	$401,588	$7,828,568
South Carolina	$11,836,229	$20,196,942	$229,899	$32,263,070
South Dakota	$1,044,689	$752,984	$540,076	$2,337,749
Tennessee	$10,758,790	$31,281,593	$19,532,889	$61,573,272
Texas	$39,210,172	$88,651,917	$5,362,279	$133,224,368
Utah	$2,908,843	$486,263	$2,000,767	$5,395,873
Vermont	$1,101,047	$200,769	$283,106	$1,584,922
Virginia	$12,309,109	$8,061,856	$1,801,148	$22,172,114
Washington	$10,433,193	$20,046,373	$625,626	$31,105,192
West Virginia	$2,529,328	$4,545,091	$2,301,487	$9,375,906
Wisconsin	$12,968,338	$9,084,656	$2,992,382	$25,045,376
Wyoming	$1,867,520	$1,713,054	$180,353	$3,760,927
Other	$636,755	$3,149,386	$1,224,394	$5,010,536
Total	$586,105,662	$1,222,568,435	$146,092,480	$1,954,766,577

NOTES:
(1) This table covers all applications, including those not matched to NCES data.
(2) Other refers to territories such as American Samoa, Guam, the Northern Mariana Islands, and the Virgin Islands.
(3) This table shows funding commitments made by January 4, 2000.
(4) These figures differ slightly from the numbers in Table 1 because funding by service differs slightly from total funding in the SLD data.
(5) Totals do not always match across tables because of missing values for the variables urban location, size, fraction minority, and poverty.

DATA SOURCES:
E-Rate application and funding information from the Schools and Libraries Division of the Universal Service Administrative Company.

The Urban Institute

Appendix B: Detailed Information on Matching Rules

Appendix B: Detailed Information on Matching Rules

This appendix provides a list of matches that were attempted between the SLD data and the four NCES data sets for public districts and schools, private schools, and libraries. The variables used below, and the matching process, are described in greater detail in Chapter III.

Data Set	BEN Level Merge	114 Level Merge
U.S. ED Common Core of Data, Agencies School Year 97-98 (CCD-Dist)	• State, NCES_Dist_ID • Zip_Code • Zip_Code, City_Name • State, City_Name, Street_Address • Zip_Code, Street_Address • State, City_Name, Name • Zip_Code, Name • State, City_Name, Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code, Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name, Name_bw#1, Name_bw#2 • Zip_Code, Name_bw#1, Name_bw#2 • State, City_Name, Trans_Address • Zip_Code, Trans_Address • State, City_Name, PO_Box • Zip_Code, PO_Box • Phone#_Area_Code • Phone#_Area_Code, Phone#_First_3_Digits • Phone#_Area_Code, Phone#_First_3_Digits, Phone#_Last_4_Digits • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2	• State, NCES_Dist_ID • State, City_Name_(of_BEN), Name • Zip_Code_(of_BEN), Name • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2 • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2 • State, Name_bw#1

Data Set	BEN Level Merge	H4 Level Merge
U.S. ED Common Core of Data, Local Schools School Year 97-98 (CCD-Sch)	• State, NCES_Dist_ID, NCES_School_ID • State, NCES_Dist_ID • Zip_Code • State, City_Name • Zip_Code, City_Name • State, City_Name, Street_Address • Zip_Code, Street_Address • State, City_Name, Name • Zip_Code, Name • State, City_Name, Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code, Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name, Name_bw#1, Name_bw#2 • Zip_Code, Name_bw#1, Name_bw#2 • State, City_Name, Trans_Address • Zip_Code, Trans_Address • State, City_Name, PO_Box • Zip_Code, PO_Box • Phone#_Area_Code • Phone#_Area_Code, Phone#_First_3_Digits • Phone#_Area_Code, Phone#_First_3_Digits, Phone#_Last_4_Digits • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2	• State, NCES_Dist_ID, NCES_School_ID • State, NCES_Dist_ID • State, City_Name_(of_BEN), Name • Zip_Code_(of_BEN), Name • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2 • State, City_Name_(of_BEN), Trans_Address • Zip_Code_(of_BEN), Trans_Address • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2: • State, NCES_Dist_ID, Zip_Code_(of_BEN) • State, NCES_Dist_ID, City_Name_(of_BEN) • State, NCES_Dist_ID, Name • State, NCES_Dist_ID, Name_bw#1, Name_bw#2, Name_bw#3 • State, NCES_Dist_ID, Name_bw#1, Name_bw#2 • State, NCES_Dist_ID, Name_bw#1 • State, NCES_Dist_ID_(of_BEN), NCES_School_ID • State, NCES_Dist_ID_(of_BEN) • State, NCES_Dist_ID_(of_BEN), Zip_Code_(of_BEN) • State, NCES_Dist_ID_(of_BEN), City_Name_(of_BEN) • State, NCES_Dist_ID_(of_BEN), Name • State, NCES_Dist_ID_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • State, NCES_Dist_ID_(of_BEN), Name_bw#1, Name_bw#2 • State, NCES_Dist_ID_(of_BEN), Name_bw#1

Data Set	BEN Level Merge	114 Level Merge
U.S. ED Private School Survey, School Year 97-98 (PSS)	• Zip_Code • State, City_Name • Zip_Code, City_Name • State, City_Name, Street_Address • Zip_Code, Street_Address • State, City_Name, Name • Zip_Code, Name • State, City_Name, Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code, Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name, Name_bw#1, Name_bw#2 • Zip_Code, Name_bw#1, Name_bw#2 • State, City_Name, Trans_Address • Zip_Code, Trans_Address • State, City_Name, PO_Box • Zip_Code, PO_Box • Phone#_Area_Code • Phone#_Area_Code, Phone#_First_3_Digits • Phone#_Area_Code, Phone#_First_3_Digits, Phone#_Last_4_Digits • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2	• State, Name • State, City_Name_(of_BEN), Name • Zip_Code_(of_BEN), Name • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2 • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2 • State, Name_bw#1 • State, City_Name_(of_BEN), Name_bw#1 • Zip_Code_(of_BEN), Name_bw#1

Data Set	BEN Level Merge	I14 Level Merge
U.S. ED Public Library Survey, School Year 96-97 (PLS)	• Zip_Code • State, City_Name • Zip_Code, City_Name • State, City_Name, Street_Address • Zip_Code, Street_Address • State, City_Name, Name • Zip_Code, Name • State, City_Name, Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code, Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name, Name_bw#1, Name_bw#2 • Zip_Code, Name_bw#1, Name_bw#2 • State, City_Name, Trans_Address • Zip_Code, Trans_Address • State, City_Name, PO_Box • Zip_Code, PO_Box • Phone#_Area_Code • Phone#_Area_Code, Phone#_First_3_Digits • Phone#_Area_Code, Phone#_First_3_Digits, Phone#_Last_4_Digits • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2	• State, Name • State, City_Name_(of_BEN), Name • Zip_Code_(of_BEN), Name • State, Name_bw#1, Name_bw#2, Name_bw#3 • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2, Name_bw#3 • State, Name_bw#1, Name_bw#2 • State, City_Name_(of_BEN), Name_bw#1, Name_bw#2 • Zip_Code_(of_BEN), Name_bw#1, Name_bw#2 • State, Name_bw#1 • State, City_Name_(of_BEN), Name_bw#1 • Zip_Code_(of_BEN), Name_bw#1

Notes

1) Identification variables used above are described in greater detail in Chapter III.
2) NCES_Dist_ID identifies a district within a state. NCES_School_ID identifies a building within a school district.
3) Name refers to the translated name. Translated name was used for a greater likelihood of matching.
4) Name_bw#1, 2, and 3 refer to the largest word in name, the second largest, and the third largest, respectively.
5) Trans_Address differs from the Street_Address in that some terms have been translated.
6) In the Item 14 Matches, variables that are described as (of BEN), for example, City_Name_(of_BEN), were passed down from the BEN level to the I14 level; the city name is actually the city name of the Item 14's parent BEN.

Appendix C: E-Rate Application Form

FCC Form
471

Approval by OMB
3060-0806

Schools and Libraries Universal Service Services Ordered and Certification Form

Estimated Average Burden Hours Per Response: 6 hours

This form asks schools and libraries to list the eligible telecommunications-related services they have ordered and estimate the annual charges for them so that the Schools and Libraries Corporation can set aside sufficient support to reimburse providers for services.

Please read instructions before completing. (To be completed by each Billed Entity)

Block 1: Applicant Address and Identifications (School, library, or consortium desiring Universal Service funding.)

1. Name of Applicant (Billed Entity)

2. Funding Year July 1, 1999 - June 30, 2000

3a. NCES School Code *(if individual school)* or NCES Library Code *(if individual library)*

3b. 471 Application Number *(Administrator will insert this)*

3c. Billed Entity Number

4a. Type of Applicant
(Check only one box.)
☐ school
☐ school district
☐ library or library consortium under the LSTA
☐ consortium of multiple entities

4b. *If applicant is a consortium, check all other boxes that apply:*
☐ includes non-governmental entities ineligible for support
☐ region of a state ☐ statewide ☐ multi-state
☐ state educational agency
☐ local educational agency
☐ educational service agency

5. Applicant's Street Address, P.O. Box, or Route Number

City	State	Zip Code	Telephone Number	E-mail Address

6. Contact Person's Name

Street Address, P.O. Box, or Route Number (if different from Item 5)

City	State	Zip Code

Fill in all of the following (if available), and check the preferred mode of contact: ☐ Telephone ____________
☐ FAX ____________ ☐ E-mail ____________ ☐ Mail

Block 2: Purpose of Request

7. Purpose of Request: (Check all that apply, if any.)

a. ☐ Discount on contract(s) signed prior to a request being posted on the Administrator's website.
Was an FCC Form 470 filed with regard to all the contract(s)? ☐ Yes ☐ No

b. ☐ Discount on contract(s) signed after a request being posted on the Administrator's website.

c. ☐ Minor modification or supplement to existing contract(s) for which a Form 471 was already filed.
471 Application Number ____________.

Block 3: Characteristics of Applicant and Applicant's Service Order (derived from FCC Form 470 Blocks 2 & 3)

8a. Number of students	8b. Number of library patrons
9. Number of buildings to be served	10. Number of rooms to be served

Contact Person's Name ________________________________ and Phone Number: ____________________

	Existing Service	Total Services After Order
11. Telecommunications Services		
a. Number of phones that have or require service (See instructions concerning extension phones and fax machines.)		
b. Number of computers that have or require service		
c. Number of high bandwidth video conferencing links		
12. Internal Connections		
a. Number of buildings with at least some rooms connected		
b. Number of rooms connected		
c. Highest speed of connection		
13. Internet Access		
a. Number of dial up connections		
b. Highest speed of such dial up connections		
c. Number of direct connections		
d. Highest speed of such direct connections		

Block 4: Determining Discount Percentage

14. Fill in one line per school, library, or library consortium and calculate in the last line, an average discount rate for the billed entity. Attach additional pages if necessary. *Note:* If the applicant has already completed this chart **for all of the same entities with data that is current,** provide the "471 Application Number" (*Item 3b*), from that previous FCC Form 471 here: ________.

(1) **Name of Individual School or Library**	**(2)** **NCES or Comparable Code for School or Library (Obtain from Administrator)**	**(3)** **Urban or Rural**	***(4)*** ***For Schools:*** **Number of Students** ***For Libraries:*** **NCES Code of a School in its District**	***(5)*** ***For Schools:*** **Number of Students Eligible for National School Lunch Program**	**(6)** **Discount Calculated from Discount Matrix**	**(7)** **Check if School or Library will use "Shared Services" listed in Item 15.**
						☐
						☐
						☐
						☐
						☐
						☐
FOR SHARED SERVICES ORDERED BY BILLED ENTITY (attach worksheet of calculations)						

Contact Person's Name ______________________ and Phone Number: ______________

Block 5: Services Ordered

15. "Shared" services: All EXCEPT site-specific, internal connections and dedicated ("private line") connections from only one school or library to an ISP or other end-user.

(1)	(2)	CONTRACT			(6)	(7)	Amount		(10)	(11)
SLC Service Provider Number or Full Legal Name of Service Provider	Universal Service Control Number for Form 470 on which this is based	(3) Contract Number (if applicable)	(4) Award Date	(5) Expiration Date	Services or Products	Service Start Date	(8) Estimated One Time Pre-discount Cost	(9) Estimated Monthly Pre-discount Cost	Estimated Total Annual Prediscount Cost	Percentage Discount (from Item 14)
					Telecommunication Services					
					Internet Access					
					Internal Connections (Shared)					
					Telecommunication Services					
					Internet Access					
					Internal Connections (Shared)					
					Telecommunication Services					
					Internet Access					
					Internal Connections (Shared)					

Contact Person's Name ______________________________ and Phone Number: __________________

16. "Site Specific" Services: Internal connections not shared by multiple schools or libraries and dedicated ("private line") connections from only one school or library to an ISP or other end-user.

(1)	(2)	CONTRACT			(6)	(7)	Amount (See instructions about rounding)			(11)	(12)
SLC Number of Service Provider *(Obtain from Service Provider)*	Universal Service Control Number for Form 470 on which this is based	(3) Contract Number (if applicable)	(4) Award Date	(5) Expiration Date	Services or Products	Service Start Date	(8) Estimated One Time Pre-discount Cost	(9) Estimated Monthly Pre-discount Cost	(10) Estimated Total Annual Pre-discount Cost	Percentage Discount (from Item 14)	School or Library Code *(Listed on website)*
					Dedicated Services						
					Internal Connections						
					Dedicated Services						
					Internal Connections						
					Dedicated Services						
					Internal Connections						
					Dedicated Services						
					Internal Connections						
					Dedicated Services						
					Internal Connections						

Contact Person's Name ______________________________ and Phone Number: ____________________

17. ☐ Check this box to confirm that, for each service provider listed in 15 and 16, above, a list is attached (as an appendix to this form) of all of the services that each service provider is providing to the billed entity. Service providers should provide these lists on request.

18. a. Total dollars of support allocated for this application for the entire funding year *(calculated by administrator)*

b. Amount of support set aside for this application for the first six months of the year *(calculated by administrator)*

19. Provide the total estimated cost (pre-discount price) for the services you expect to order in the funding year following the one for which you are applying here. *(This figure is not binding.)*

20. Is your order solely for basic telephone service? ☐ Yes ☐ No

Block 6: Certifications and Signature

21. The applicant is eligible for support because it includes: (Check one or both.)
   a. ☐ schools under the statutory definitions of elementary and secondary schools found in the Elementary and Secondary Education Act of 1965, 20 U.S.C. Secs. 8801(14) and (25), that do not operate as for-profit businesses and do not have endowments exceeding $50 million; and/or
   b. ☐ libraries or library consortia eligible for assistance from a state library administrative agency under the Library Services and Technology Act of 1996 that do not operate as for-profit businesses and whose budgets are completely separate from any schools', including, but not limited to, elementary and secondary schools, colleges, or universities.

22. The school(s) or library(ies) I represent have secured access to all of the resources, including computers, training, software, maintenance, and electrical connections necessary to make effective use of the services purchased as well as to pay the discounted charges for eligible services.

23. All of the individual schools, libraries, and library consortia listed above in items 15 and 16 are covered by:
   a. ☐ an individual; and/or
   b. ☐ higher-level technology plan(s) for using the services requested in this application (if those services consist of other than voice services).

24. Status of technology plans (check one):
   a. ☐ Technology plan(s) has/have been approved; or
   b. ☐ Technology plan(s) will be approved by a state or other authorized body; or
   c. ☐ Technology plan(s) will be submitted to Schools and Libraries Corporation for approval.

25. I certify that the entities eligible for support that I am representing have complied with all applicable state and local laws regarding procurements of services for which support is being sought.

26. I certify that the services the applicant purchases at discounts provided by 47 U.S.C. Sec. 254 will be used solely for educational purposes and will not be sold, resold, or transferred in consideration for money or any other thing of value.

27. I understand that the discount level used for shared services is conditional, for future years, upon ensuring that the most disadvantaged schools and libraries that are treated as sharing in the service receive an appropriate share of benefits from those services.

28. I recognize that I may be audited pursuant to this application and will retain for five years any and all worksheets and other records that I rely upon to fill out this application.

29. I certify that I am authorized to submit this request on behalf of the above-named institution, that I have examined this request, and to the best of my knowledge, information, and belief, all statements of fact contained herein are true.

30. Signature 31. Date

32. Printed name of authorized person

33. Title or position of authorized person

Persons willfully making false statements on this form can be punished by fine or forfeiture, under the Communications Act, 47 U.S.C. Secs. 502, 503(b), or fine or imprisonment under Title 18 of the United States Code, 18 U.S.C. Sec. 1001.

Contact Person's Name ______________________________ and Phone Number: ____________________

NOTICE TO INDIVIDUALS: Section 54.504 of the Federal Communication Commission's rules requires all schools and libraries ordering services that are eligible for and seeking universal service discounts to file this Services Ordered and Certification Form (FCC Form 471) with the Universal Service Administrator 47 C.F.R. § 54.504. The collection of information stems from the Commission's authority under Section 254 of the Communications Act of 1934, as amended, 47 U.S.C. § 254. The data in the report will be used to ensure that schools and libraries comply with the competitive bidding requirement contained in 47 C.F.R. § 54.504. All schools and libraries planning to order services eligible for universal service discounts must file this form themselves or as part of a consortium.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

The FCC is authorized under the Communications Act of 1934, as amended, to collect the personal information we request in this form. We will use the information you provide to determine whether approving this application is in the public interest. If we believe there may be a violation of potential violation of a FCC statute, regulation, rule or order, your application may be referred to the Federal, state, or local agency responsible for investigating, prosecuting, enforcing or implementing the statute, rule, regulation or order. In certain cases, the information in your application may be disclosed to the Department of Justice or a court or adjudicative body when (a) the FCC; or (b) any employee of the FCC; or (c) the United States Government, is a party of a proceeding before the body or has an interest in the proceeding.

If you owe a past due debt to the federal government, the taxpayer identification number (such as your social security number) and other information you provide may also be disclosed to the Department of the Treasury Financial Management Service, other federal agencies and/or your employer to offset your salary, IRS tax refund or other payments to collect that debt. The FCC may also provide this information to these agencies through the matching of computer records when authorized.

With the exception of your social security number, if you do not provide the information we request on the form, the FCC may delay processing of your application or may return your application without action.

The foregoing Notice is required by the Privacy Act of 1974, Pub. L. No. 93-579, December 31, 1974, 5 U.S.C. § 552, and the Paperwork Reduction Act of 1995, Pub. L. No. 104-13, 44 U.S.C. § 3501, *et seq.*

Public reporting burden for this collection of information is estimated to average 6 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing, and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the reporting burden to the Federal Communications Commission, Performance Evaluation and Records Management, Washington, D.C. 20554..

This form should be submitted to:

SLC-Form 471
P.O. Box 7026
Lawrence, Kansas 66044-7026
1-888-203-8100

If sent by express delivery services or U.S. Postal Service, Return Receipt Requested, the form should be mailed to:

SLC-Form 471
c/o Ms. Smith
3833 Greenway Drive
Lawrence, Kansas 66046
1-888-203-8100

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Appendix D: Letter to FCC Chairman Hundt

UNITED STATES DEPARTMENT OF EDUCATION
THE SECRETARY

July 31, 1997

Honorable Reed E. Hundt
Chairman
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

Re: Federal-State Joint Board on Universal Service

CC Docket No. 96-45

Dear Chairman Hundt:

In Section X of the May 8, 1997 Federal Communications Commission Report and Order on Universal Service, you unanimously created the E-rate, under which almost all of the nation's elementary and secondary schools and public libraries will be entitled to deep discounts from the lowest corresponding rates for telecommunications and other eligible services. In paragraphs 571 and 574 of that ruling the Commission requested recommendations from the Department of Education on the design of E-rate applications that schools and libraries will submit, and on alternative measures for the required approval of technology plans. [1]

We consider the establishment of the E-rate to be of historic significance in the development of this nation's elementary and secondary school and public library telecommunication systems. We applaud you and your fellow Commissioners for having carried out the intention of the Snowe-Rockefeller-Exon-Kerrey Amendment to the Telecommunications Act of 1996 in such a comprehensive and effective manner. When staff from the Department and the National Telecommunications and Information Administration of the Department of Commerce met with the Commission's staff just prior to the ruling, [2] we offered broad assistance in the implementation of the E-rate, including the specific matters later assigned to us. We were pleased to receive the assignment and have proceeded quickly to complete our work to ensure that the system is ready to process applications before funding starts on January 1.

Although you requested assistance only from this Department (and the Institute of Museum and Library Services, in the case of alternative approval measures for library technology plans), we believed that we could do a more effective job by continuing to work with our sister agencies, the Departments of Agriculture and Commerce, with whom we have collaborated since the inception of the Commission's consideration of the E-rate. In addition, we wanted to formally recognize the contribution of the Education and Library Networks Coalition (EdLiNC), an ad hoc alliance of 33 representative organizations from the elementary/secondary education and library communities, in the creation of the E-rate, by more fully utilizing the practical expertise of its members in technology planning and procurement. Accordingly, the enclosed report was developed by a Working Group composed of the four Federal agencies and EdLiNC.

The report of the Working Group deals primarily with the specific assignments that the Commission gave us. It also covers certain other matters that we found necessary to consider in order to address the specific assignments. In formulating our recommendations, we attempted to adhere to certain bedrock principles:

1. Protection of the integrity and accountability of the Universal Service Fund, including the prevention of fraud, waste and abuse, is of paramount importance. In particular, we should be faithful to the intent of Congress and the Commission in targeting schools and libraries with high rates of poverty and in rural areas for special discounts, the full benefits of which should be received by the intended beneficiaries.

2. We should minimize the burden on schools and libraries, and maximize their flexibility in applying for E-rate discounts.

3. We should fit the E-rate application process to the existing complex, varied and decentralized processes by which schools and libraries inventory existing technology components, plan for their use and further acquisitions, and procure telecommunications and other eligible services. We should minimize the need for those existing processes to be changed to accommodate the E-rate application process.

4. We should fit the E-rate application process to the existing, varied governance structures for schools and libraries created by State and local law and minimize the creation of new Federal requirements.

5. We should facilitate competition among service providers by providing them with needed information and by preserving the technological neutrality of the application process.

In certain areas, potential inconsistencies among these bedrock principles posed real challenges for the Working Group. We believe, however, that as a result of the deliberations we managed to achieve the best balance among the principles in terms of satisfying the requirements of the Telecommunications Act of 1996 and preserving the public interest.

We believe the Working Group has been a very productive collaboration and the Department stands ready to continue to work with the other members of the group in providing whatever additional assistance the Commission may need. We will be in touch with you shortly to set up a meeting to discuss the report and any further assistance that might be helpful to the Commission.

Yours sincerely,

Richard W. Riley

Richard W. Riley

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[1] In paragraphs 571 and 581 the Commission also requested recommendations as to a separate subcontractor for the E-rate application process and an independent auditor. The Commission withdrew the additional requests in paragraphs 26 and 65 of its Second Order on Reconsideration of July 18, 1997.

[2] See ex-parte letter of April 25, 1997.